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SHARP 19K-M100 SERVICE MANUAL

Table of Contents

Table of Contents
IMPORTANT SERVICE SAFETY PRECAUTION
BEFORE RETURNING THE RECEIVER
SAFETY NOTICE
PRECAUTIONS A PRENDRE LORS DE LA REPARATION
LOCATION OF USER'S CONTROL
INSTALLATION AND SERVICE INSTRUCTIONS
CIRCUIT PROTECTION
HIGH VOLTAGE CHECK
SERVICE ADJUSTMENT
CHASSIS LAYOUT
BLOCK DIAGRAM
PARTS LIST
PRINTED WIRING BOARD ASSEMBLIES
LISTE DES PIECES
MISCELLANEOUS PARTS
INTEGRATED CIRCUITS
SUPPLIED ACCESORRIES
PACKING PARTS
CABINET PARTS LOCATION
PACKING OF THE SET
19K-M100S, 20MK10
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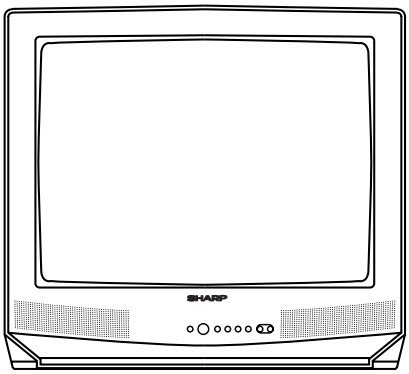
SHARP SERVICE MANUAL

S38O119K-M100



COLOR TELEVISION

Chassis No. SN-80

MODELS 19K-M100,CK19M10
19K-M100S, 20MK10

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

Page

- ELECTRICAL SPECIFICATIONS 1
- IMPORTANT SERVICE SAFETY PRECAUTION 2
- LOCATION OF USER'S CONTROL 6
- INSTALLATION AND SERVICE INSTRUCTIONS 7
- CHASSIS LAYOUT 12
- BLOCK DIAGRAM 14
- SCHEMATIC DIAGRAMS 15
- PRINTED WIRING BOARD ASSEMBLIES 21
- REPLACEMENT PARTS LIST 29
- PACKING OF THE SET 43

ELECTRICAL SPECIFICATIONS

POWER INPUT ..... 120 V AC 60 Hz

POWER RATING

- 19K-M100, CK19M10 ..... 82 W
- 19K-M100S, 20MK10 ..... 84 W

PICTURE SIZE ..... 1,194cm^2 (185sq inch)

CONVERGENCE ..... Magnetic

SWEEP DEFLECTION ..... Magnetic

FOCUS ..... Hi-Bi-Potential Electrostatic

INTERMEDIATE FREQUENCIES

- Picture IF Carrier Frequency ..... 45.75 MHz
- Sound IF Carrier Frequency ..... 41.25 MHz
- Color Sub-Carrier Frequency ..... 42.17 MHz (Nominal)

AUDIO POWER

- OUTPUT RATING ..... 0.9W (at 10% distortion)

SPEAKER

- SIZE ..... 8 cm (Round)
- VOICE COIL IMPEDANCE ..... 8 ohm at 400 Hz

ANTENNA INPUT IMPEDANCE

- VHF/UHF ..... 75 ohm Unbalanced

TUNING RANGES

- VHF-Channels ..... 2 thru 13
- UHF-Channels ..... 14 thru 69
- CATV Channels ..... 1 thru 125 (EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

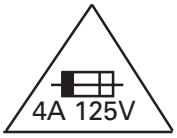
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the +B voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low +B DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



CAUTION: FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 4A-125V FUSE.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a colour chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

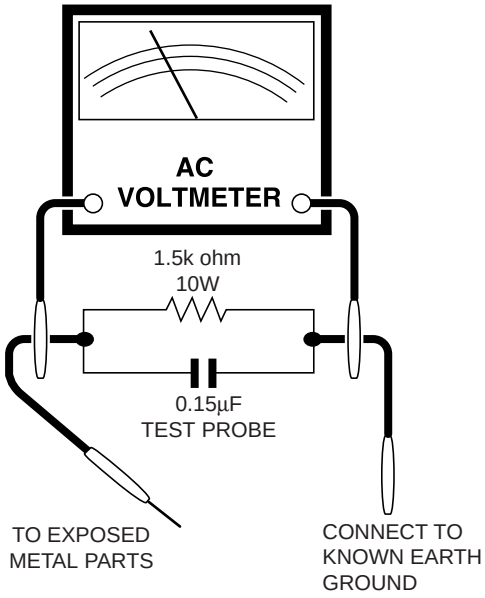
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  AII checks must be repeated with the AC ine cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

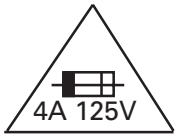
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

■ **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.
3. Les déversoirs thermiques à semi-conducteurs peuvent présenter un danger de choc électrique lorsque le réceqteur est en marche.
4. Le châssis de ce récepteur possède deux systèmes de masse qui sont séparées par du matériel d'isolation. Le système de masse non-isolée (sous tension) est pour le circuit du régulateur de tension + B et le circuit de sortie horizontale. Le système de masse isolée est pour les tensions DC + B basses et le circuit secondaire du transformateur haute tension. Pour éviter tout risque d'électrocution lors de l'entretien de ce châssis, utiliser un transformateur d'isolation entre le cordon de ligne et la prise de courant.



PRECAUTION: POUR LA PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, REMPLACER LE FUSIBLE PAR UN FUSIBLE DE MEME TYPE 4A-125V.

REPARATION DU SYSTEME A HAUTE TENSION ET DU TUBE-IMAGE

Lors de la réparation de ce systéme, supprimer la charge statique en branchant une résistance de 10 kΩ en série avec un fil isolé (comme une sonde d'essai) entre la mise à la terre du tube-image et le fil d'anodel. (Le corden d'alimentation doit être retiré de la prise murale.)

1. Le tube image dans ce récepteur emploie une protection intégrée contre l'implosion.
2. Par mesure de sécurité, changer le tube-image pour un tube du même numéro de type.
3. Ne pas lever le tube-image par son col.
4. Ne manipuler le tube-image qu'en porant des lunettes incassables et qu'après avoir déchargé totalement la haute tension.

LIMITES DES RADIATIONS X ET DE LA HAUTE TENSION

1. Tout le personnel réparateur doit être instruit des instructions et procédés relatifs aux radiations X.
   Le tube-image, seule source de rayons X dons les téléviseurs transistorisés, n'émet pourtant pas de rayons mesurables si la haute tension est maintenue à un niveau préconisé dans la section "Vérification de la haute tension".
   C'est seulement quand la haute tension est excessive que les rayons X peuvent entrer dans l'enveloppe du tube-image y compris le conducteur de verre. Il est important de maintenir la haute tension en-dessous du niveau spécifié.
2. Il est essentiel que le réparateur ait sous la main un voltmètre à haute tension qui doit être périodiquement étalonné.
3. La haute tension doit toujours être maintenue à la valeur de régime -et pas plus haute. L'opération à des tensions plus élevées peut entraîner une panne du tube-image ou du circuit à haute tension et, dans certaines conditions, peut entraîner une radiation dépassant les niveaux préscrits.
4. Quand le régulateur à haute tension fonctionne correctement, il n'y a aucun problème de radiation X. Chaque fois qu'un châssis couleurs est réparé, la luminosité doit être examinée bout en contrôlant la haute tension à l'aide d'un voltmètre pour s'assurer que la haute tension ne dépasse pas la valeur spécifiée et qu'elle soit correctement réglée.
5. Ne pas utiliser un tube-image autre que celui spécifié et ne pas effectuer de modifications déconseillées du circuit à haute tension.
6. Lors de la recherche des pannes et des mesures d'essai sur un récepteur qui présente une haute tension excessive, éviter de s'approcher inutilement du récepteur.
   Ne pas faire fonctionner le récepteur plus longtemps que nécessaire pour localiser la cause de la tension excessive.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

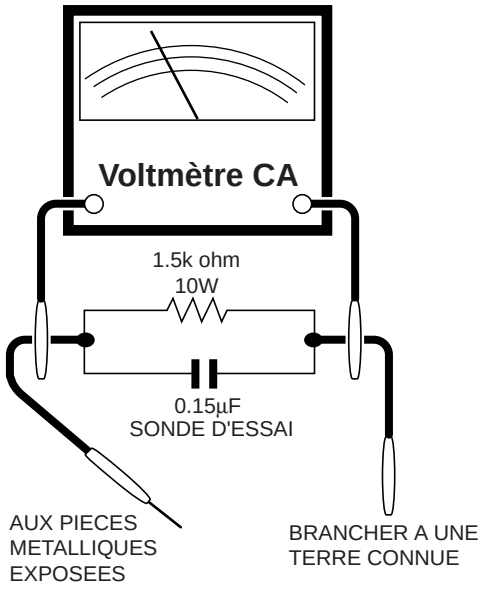
(Suite)

VERIFICATIONS CONTRE L'INCEN-DIE ET LE CHOC ELECTRIQUE

Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la facon suivante:

- Brancher le cordon d'alimentation directem-ent à une prise de courant de 120V. (Ne pas utiliser de transformateur d'isolation pour cet essai).
- A l'aide de deux fils à pinces, brancher une résistance de 1,5 kΩ 10 watts en parallèle avec un condensateur de 0,15µF en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
- Utiliser un voltmètre CA d'une sensibilité d'au moins 5000Ω/V pour mesurer la chute de tension en travers de la résistance.
- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance. Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adpatation non polarisée peut être utilisée dans le but de terminer ces vérifications.)
  Tous les courants mesurés ne doivent pas dépasser 0,5 mA.
  Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.

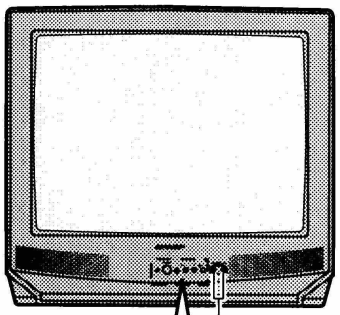


AVIS POUR LA SECURITE

De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.
Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont identifiées par la marque " ⚠ " et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.
Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

LOCATION OF USER'S CONTROL

Front Panel



SENSOR AREA FOR REMOTE CONTROL

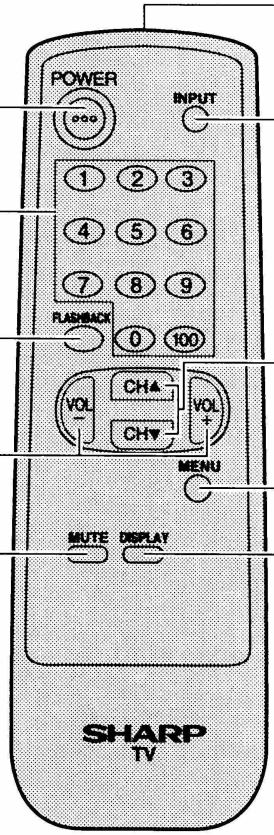
POWER
Press → On.
Press again → Off.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.

VIDEO/AUDIO IN TERMINALS

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.

Basic Remote Control Functions



Infrared Transmitter Window

POWER
Press → On.
Press again → Off.

REMOTE KEYPAD
Accesses any channel from keypad.

FLASHBACK
Returns to previous channel.

VOLUME UP/DOWN
(+) Increases sound.
(–) Decreases sound.
• In menu mode, changes or selects the TV adjustments.

MUTE
Press → Mutes sound.
Press again → Restores sound.
• CLOSED CAPTION appears when sound is muted.

INPUT
Press → Switch to external video input mode.
Press again → Switch to TV mode.

CHANNEL UP/DOWN
(▲) Selects next higher channel.
(▼) Selects next lower channel.
• Moves the " ⬍" mark of the MENU screen.

MENU
Press → Accesses MAIN MENU.
Press again → Exits MAIN MENU.

DISPLAY
Press → Displays receiving channel for 4 seconds.
Press again → Removes display.
• Temporarily displays receiving channel when in Closed Caption mode.

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, +B system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1) Apply 120V AC using a variac transformer for accurate input voltage.
2) Allow for warm up and adjust all customer controls for normal picture and sound.
3) Receive a good local channel.
4) Connect a digital voltmeter to TP653 and make sure that the voltmeter reads 21.3V ±1.5V.
5) Apply external 28.9V DC at TP653 by using an external DC supply, TV must be shut off.
6) To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
7) If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S19" and Bus data "01" (Y-mute on).
4. The voltage should be approximately, 26.0kV (at zero beam).
   If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required. See "Table-B" to determine, if service adjustments are required.

1. Service mode

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer controls are in their proper (reset) position.

2. Service number selection

Once in the service mode, press the Ch-up or Ch-down button on the remote controller or at the set. The service adjustment number will vary in increments of one, from "S01" to "S19". Select the item you wish to adjust.

3. Data number selection

Press the Vol-up or down button to adjust the data number.

To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket.
Now the TV set is switched on and enters the service mode.
To exit the service mode, turn the television off by pressing the power button.

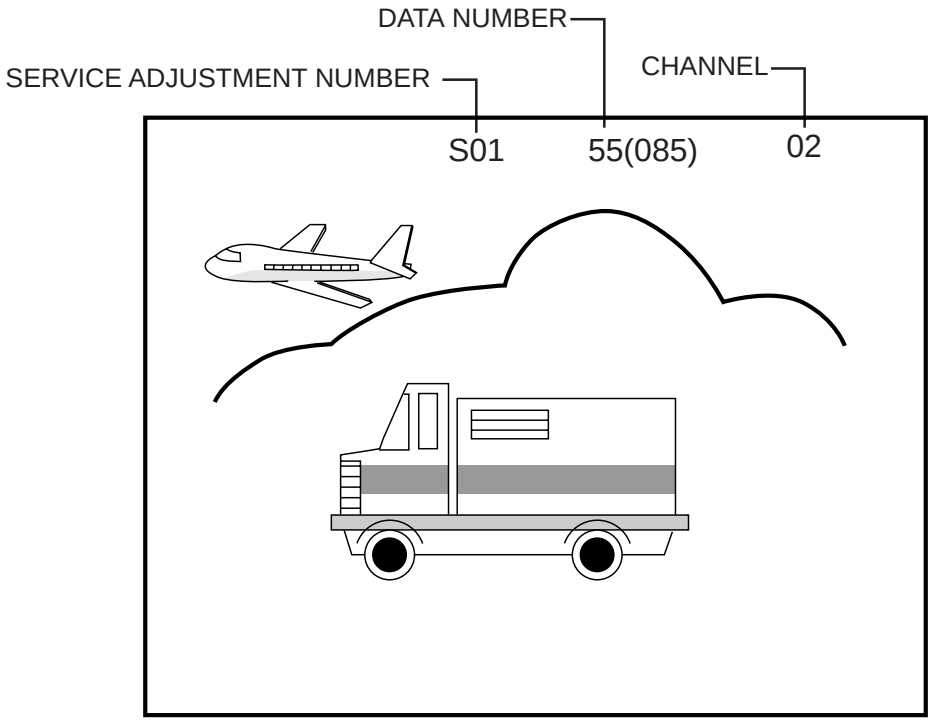


Figure A.

SERVICE NUMBER	ADJUSTMENT ITEM	DATA		ADJUSTMENT CONTENTS
		INITIAL VALUE	RANGE	
S01	PICTURE	55	00-7F	
S02	TINT	46	00-7F	
S03	COLOR	32	00-7F	
S04	BRIGHTNESS	40	00-7F	
S05	SHARPNESS	28	00-3F	Must be set to "24"
S06	VERTICAL PHASE	00	00-07	Must be set to "00" ~ "03"
S07	HORIZONTAL PHASE	12	00-1F	
S08	RF-AGC	2A	00-3F	
S09	VERTICAL AMP	20	00-3F	
S10	VCO	2C	00-7F	
S11	R CUT-OFF	00	00-FF	
S12	G CUT -OFF	00	00-FF	
S13	B CUT-OFF	00	00-FF	
S14	G GAIN	7F	00-FF	
S15	B GAIN	7F	00-FF	
S16	TRAP(3.58MHz)	00	00 or 01	Must be set to "00"
S17	BALANCE	20	00-3F	Must be set to "20"
S18	C.C.POSITION	18	00-7F	
S19	Y-MUTE	00	00,01,03	"00" = NORMAL, "01" = No Y, "03" = No VERTICAL

Table - A

Holding down both the CH-up/down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201.
IC2101	X		Holding down both the CH-up/down bottons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101.
CRT	X		Adjust items related to picture tube only.

Table - B

■ SERVICE ADJUSTMENT

VCO Adjustment

1. Connect a digital voltmeter between pin (44) of IC201 and ground.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data so that digital voltmeter reads 2.2V.
5. Adjustment is completed, remove the voltmeter, return to "normal" mode.

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S08".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.
   Note 1 : You will have to come out of the service mode to select another channel.
   Note 2 : Setting the data to "00" will produce a black raster.

Screen Adjustment

1. Connect a digital voltmeter between TP852 and TP853 on the CRT Unit.
   Note: These test points may not be provided. Then connect the voltmeter to both ends of R852 located near Q852 on the foil side.
2. Receive a good local channel.
3. Enter the service mode and select the service adjustment "S03" and set the data value to "00" to set the color level to minimum. (Record original data code under adjustment "S03" before changing) You may skip this step, if you selected a B/W picture or monoscope pattern.
4. Select the service adjustment "S19" and adjust the data value to "01", this turn off the luminance signal (Y-mute).
5. Select the service adjustment "S04" and adjust data value to obtain 0.17 volts on the digital voltmeter.
6. Adjust the master screen cotrol until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustments "S11" red, "S12" green and "S13" blue to obtain a good grey scale with normal whites at low brightness level.
8. Select the service adjustment "S19" and reset data to "00". Select the service adjustment "S03" and reset data to obtain normal color level.
9. Remove digital voltmeter, and reset the master screen control to obtain normal brightness range.

White Balance Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S03" and set to "00" (minimum color)(Record original data code under adjustment "S03" before changing). "S03" does not have to be adjusted, if you selected a B/W picture or monoscope pattern.
3. Alternately adjust the service adjustment data of "S14" and "S15" until a good grey scale with normal whites is obtained.
4. Select the service adjustment "S03" and adjust data to obtain normal color level.

Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S01".
4. Adjust the data value to achieve normal contrast range.

Sub-Tint Adjustment

1. Receive a good local channel.
2. Set customer tint control to center of it's range.
3. Enter the service mode and select the service adjustment "S02".
4. Adjust "S02" data value to obtain normal flesh tones.

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position .
3. Enter the service mode and select service adjustment "S03".
4. Adjust "S03" data value to obtain normal color level.

Sub-Brightness Adjustment

1. Have unit receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "S04".
4. Adjust "S04" data value to obtain normal brightness level.

Vertical-Size and Linearity Adjustments

1. Have unit receive a good local channel.
2. Enter the service mode and select the service adjustment "S09".
3. While observing the top and bottom of the screen, adjust "S09" data value to proper vertical size.

Vertical Phase Adjustment

1. Enter the service mode and select the service adjustment "S06".
2. Adjust data value to "00".

Note: This must be set "00" when changed data retrace line will appear.

Horizontal Position Adjustment

1. Have unit receive a good local channel.
2. Enter the service mode and select the service adjustment "S07".
3. Adjust "S07" data value so that picture is centered.

Caption Position Adjustment (Horizontal)

1. Have unit receive a good local channel.
2. Enter the service mode and select the service adjustment "S18".
3. A black text box appears on the screen. (see **Figure B** below)
4. Adjust "S18" data value so that text box is positioned in the center of the screen.

3.58MHz Trap Adjustment

1. Receive a good local channel.
2. Enter the service mode and select the service adjustment "S16".
3. This is a two position adjustment, "00" is ON, "01" is OFF.
4. Adjust data value to "00" for normal viewing.

Sharpness and Audio Balance Adjustments

1. Receive a good local channel.
2. Enter the service mode and select the service adjustments "S05" for sharpness and "S17" for balance.

- **Sharpness adjustment**

3. Adjust data value to "24"(center of data range) for sharpness adjustment.

- **Audio balance adjustment**

4. Adjust data value to "20"(center of data range) for Audio balance adjustment.

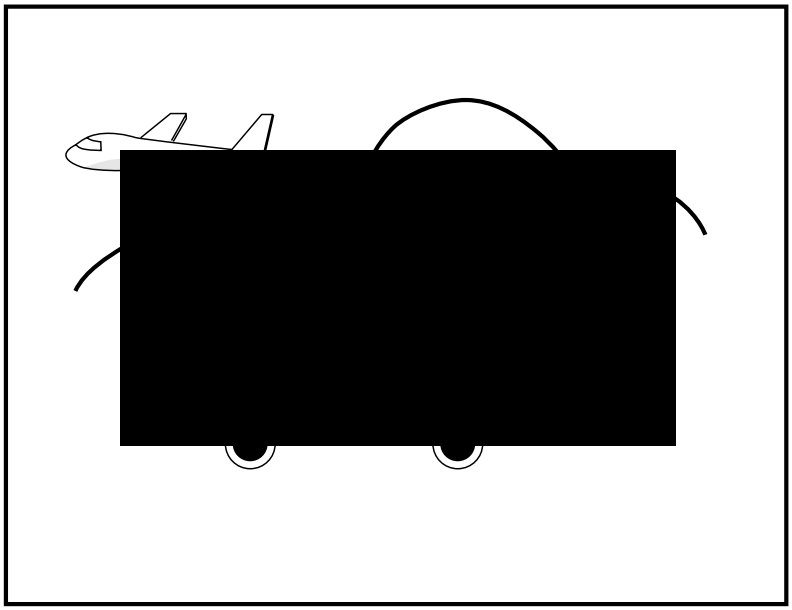
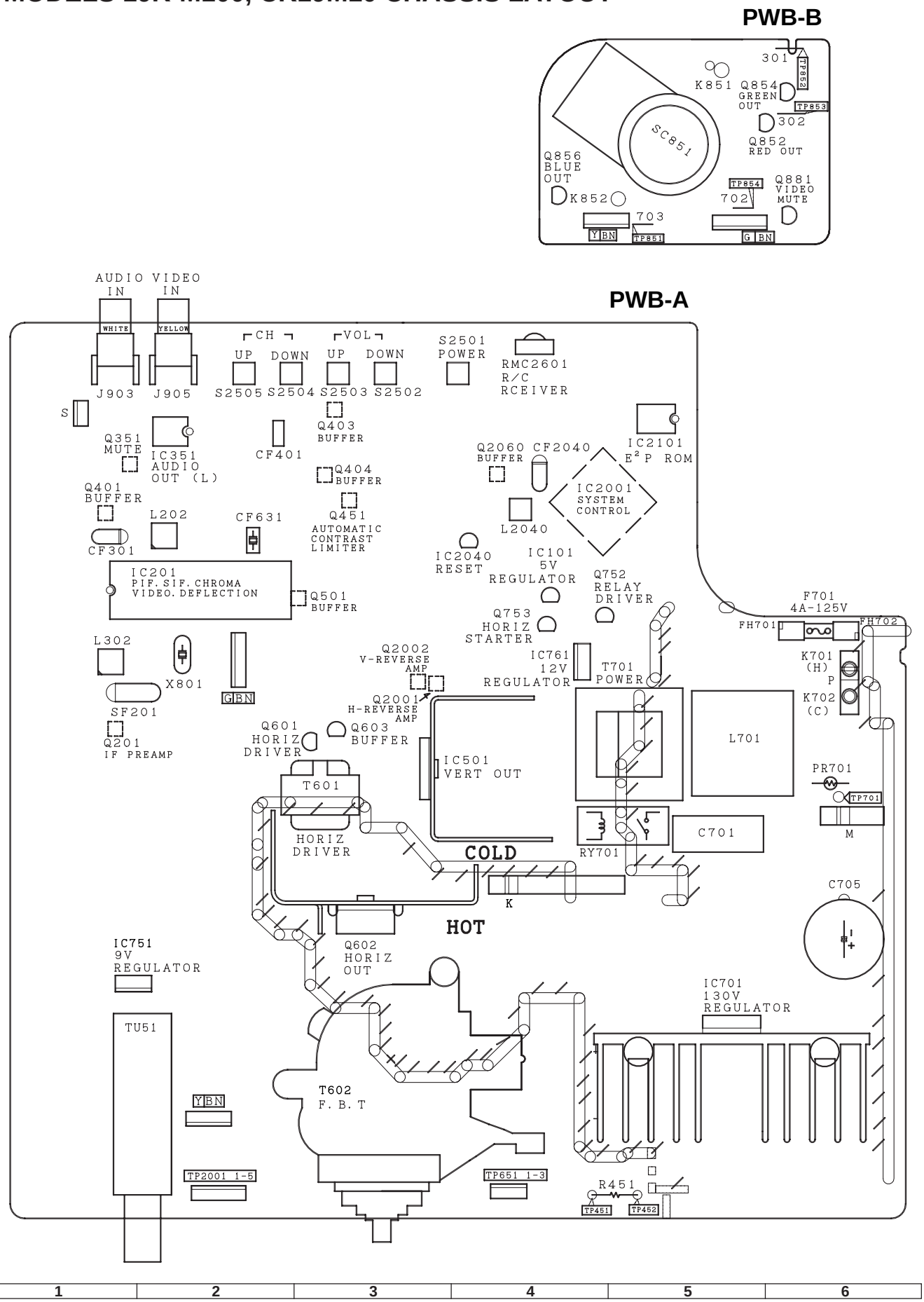
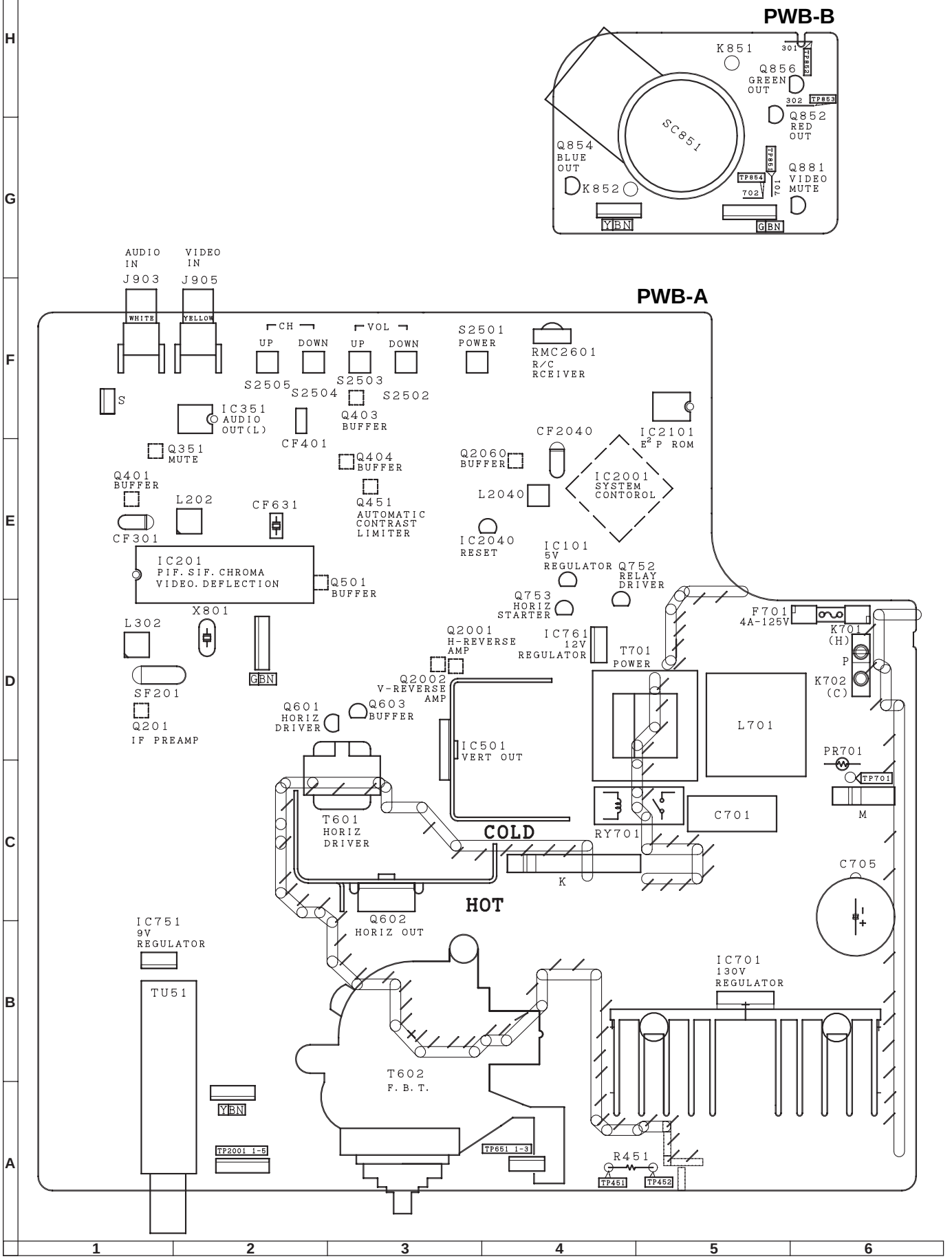


Figure B.

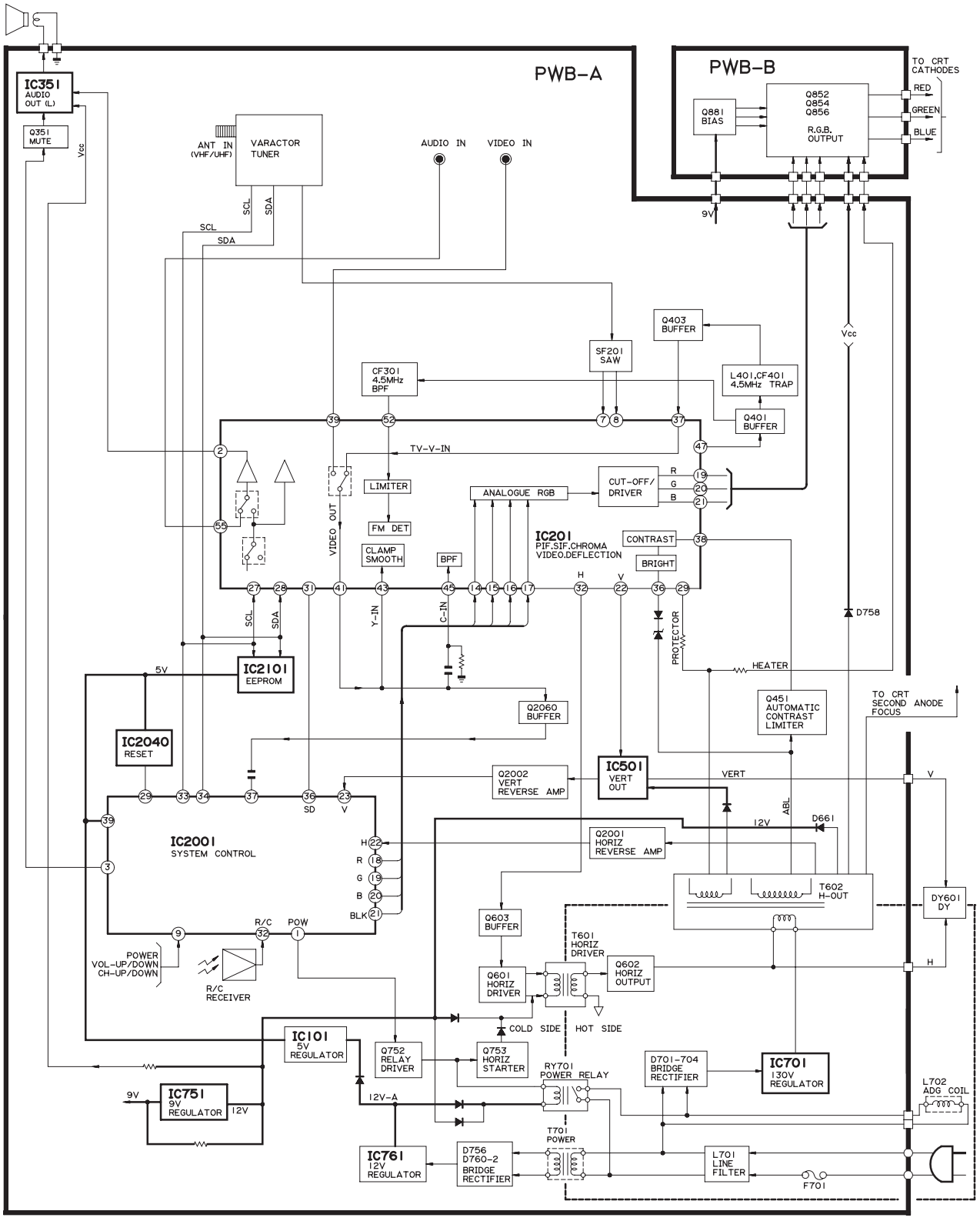
MODELS 19K-M100, CK19M10 CHASSIS LAYOUT



MODELS 19K-M100S, 20MK10 CHASSIS LAYOUT



BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors are μ F, unless otherwise noted. (P=pF=μμF)*
4. *(G) indicates ±2% tolerance may be used.*
5. ⏚ *indicates line isolated ground.*
6. ⏚ *indicates hot ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with VTVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μ V B & W or Color signal.*

WAVEFORM MEASUREMENT CONDITIONS:

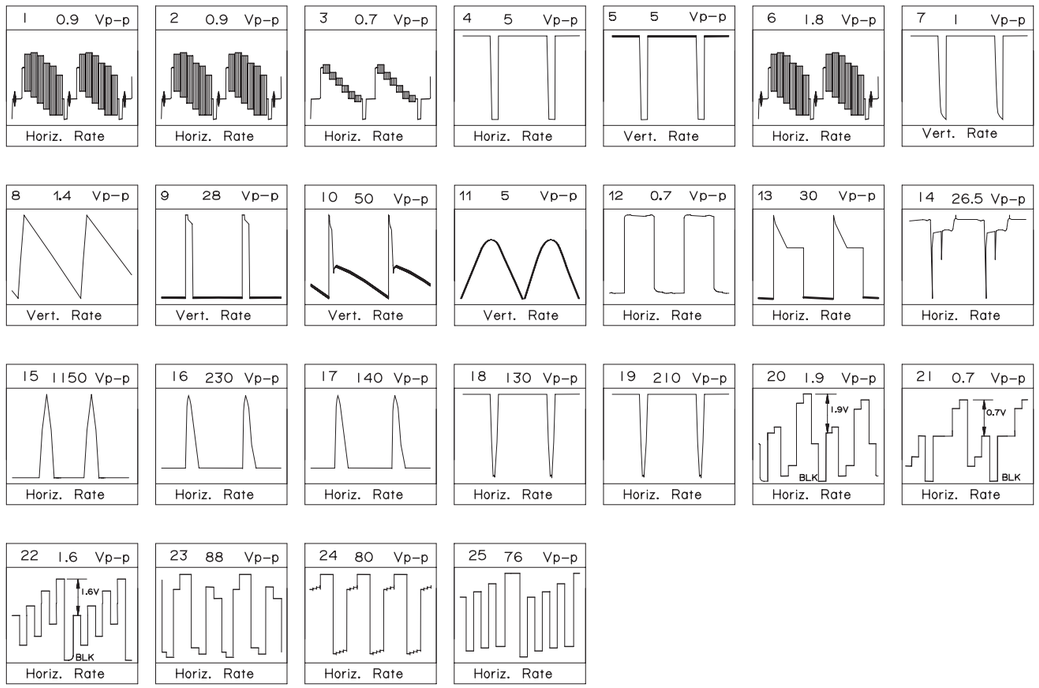
1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. ◇ *indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ *AND SHADED ( ) COMPONENTS = SAFETY RELATED PARTS.*
▲ *MARK= X-RAY RELATED PARTS.*

DRGANNES MARQUES ⚠ ET HACHRES ( ): PIECES RELATIVES A LA SECURITE.
MARQUE ▲ : PIECS RELATIVE AUX RAYONS X.

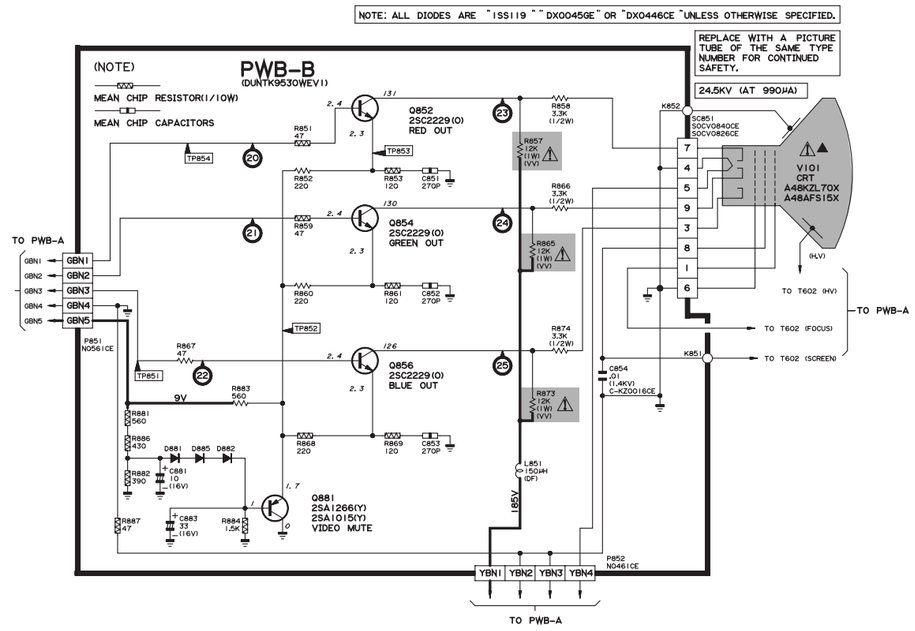
This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

WAVE FORMS

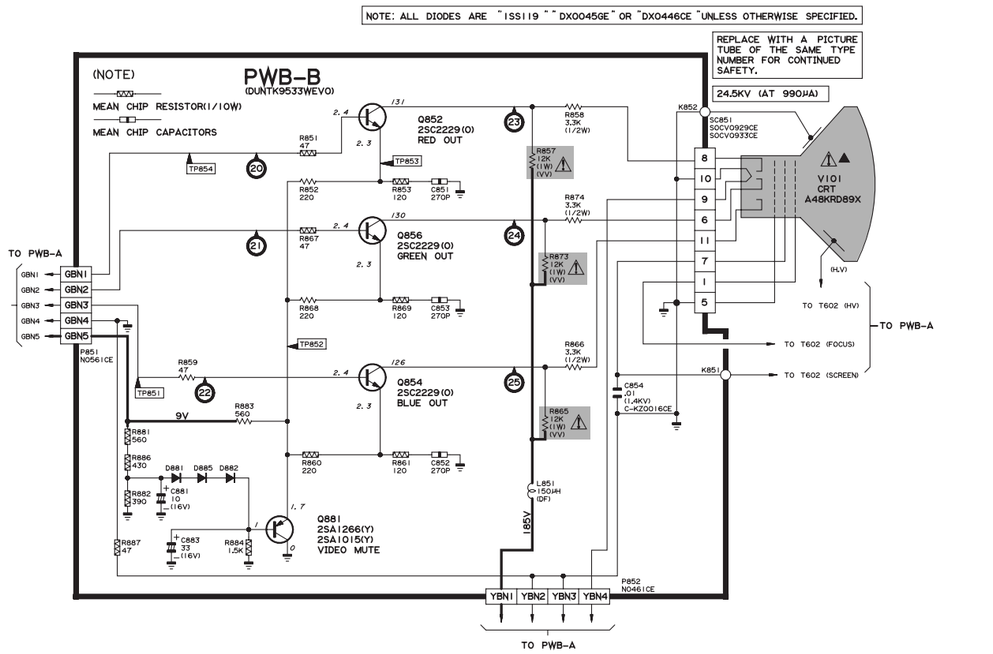


SCHEMATIC DIAGRAM: CRT Unit

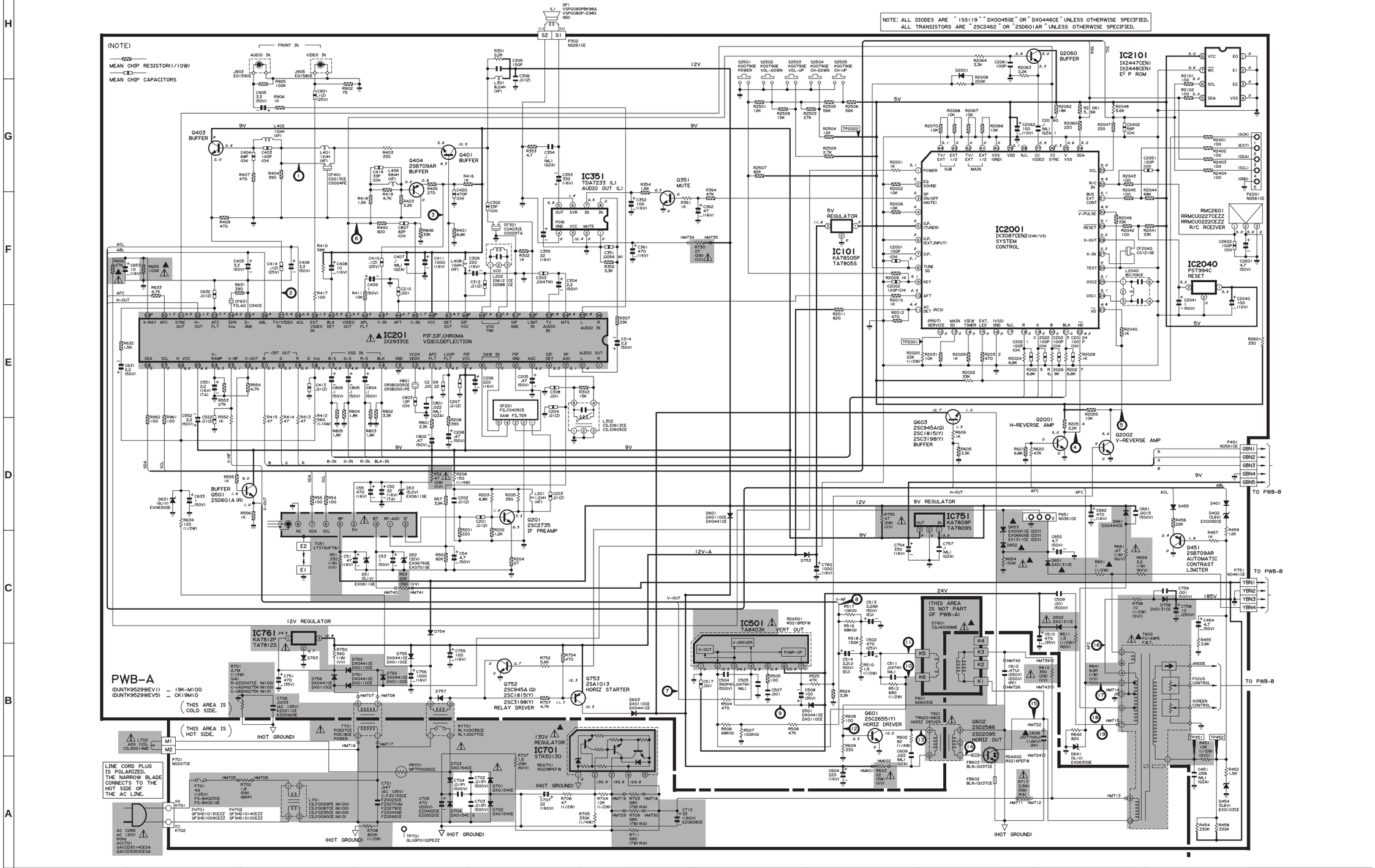
(19K-M100, CK19M10)



(19K-M100S, 20MK10)

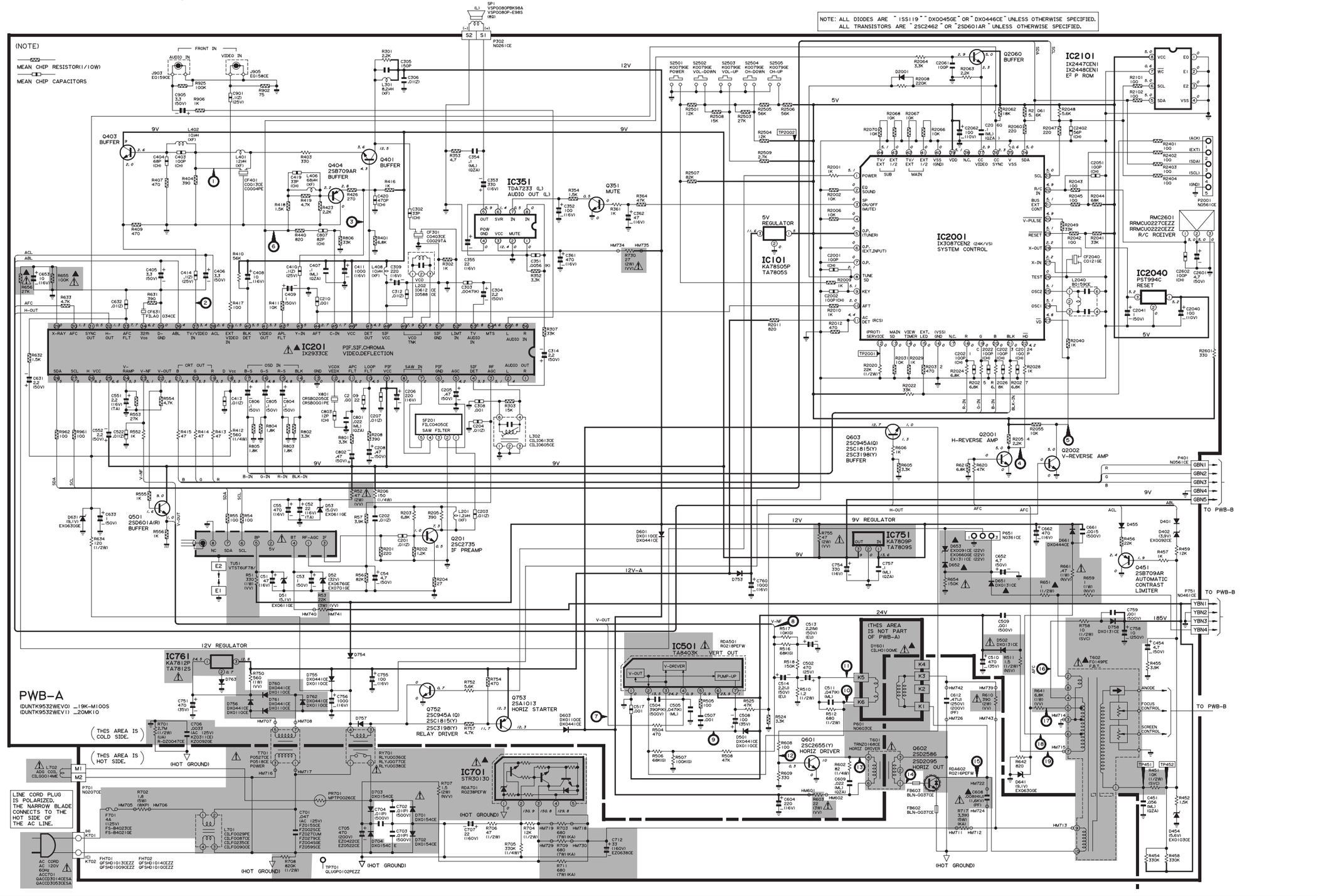


MODELS 19K-M100, CK19M10 SCHEMATIC DIAGRAM: MAIN Unit

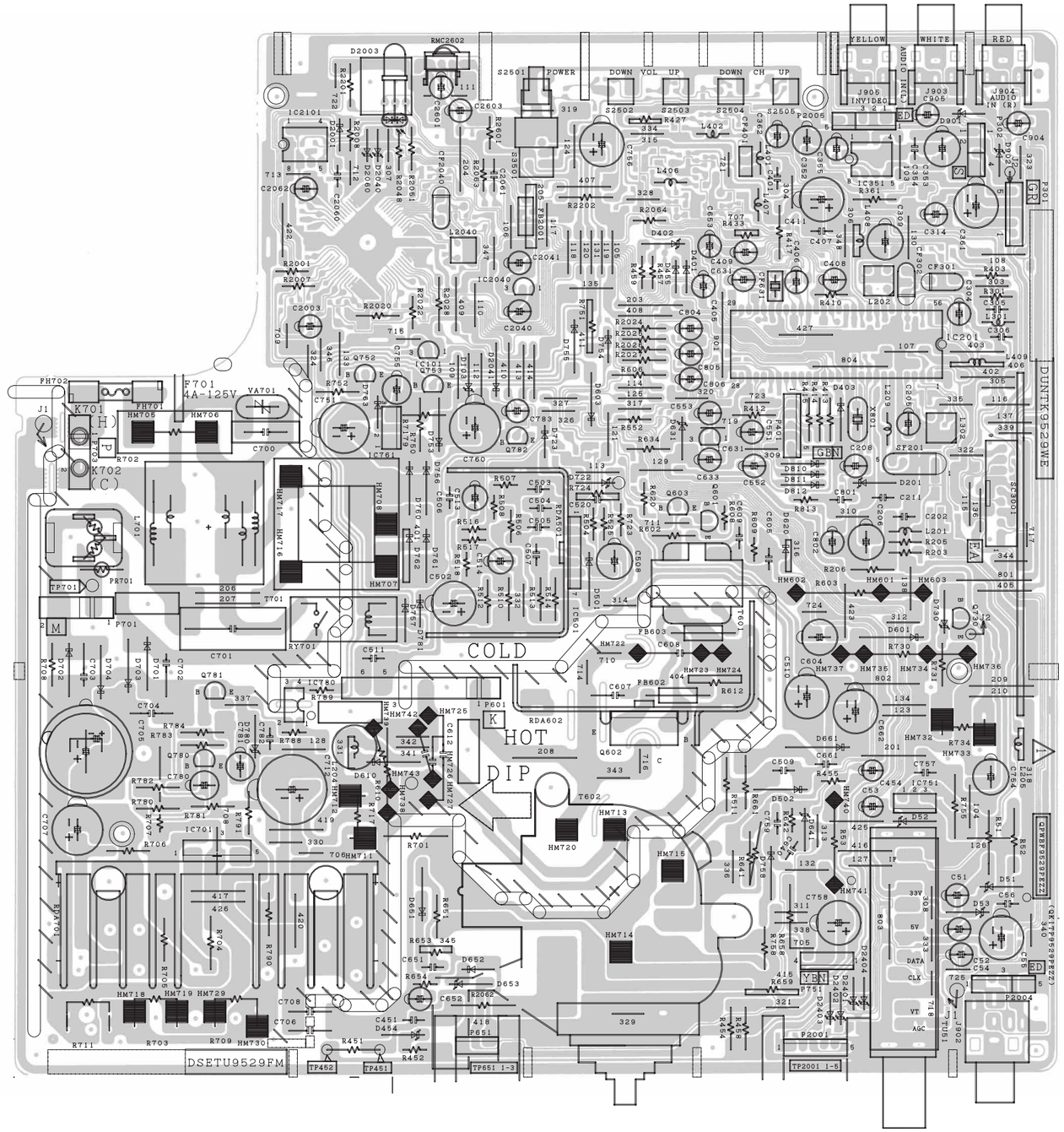


19K-M100, CK19M10	19K-M100, CK19M10
19K-M100S, 20MK10	19K-M100S, 20MK10

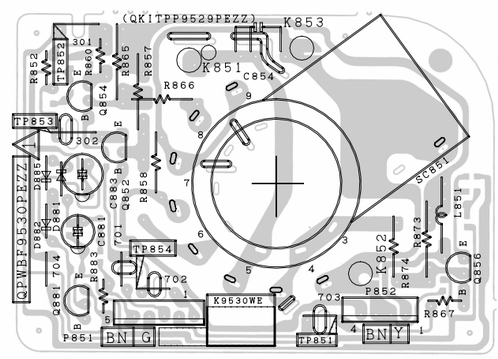
MODELS 19K-M100S, 20MK10 SCHEMATIC DIAGRAM: MAIN Unit



MODELS 19K-M100, CK19M10 PRINTED WIRING BOARD ASSEMBLIES

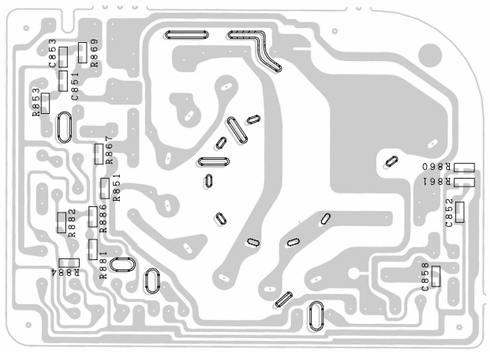


PWB-A : MAIN Unit (Wiring Side)

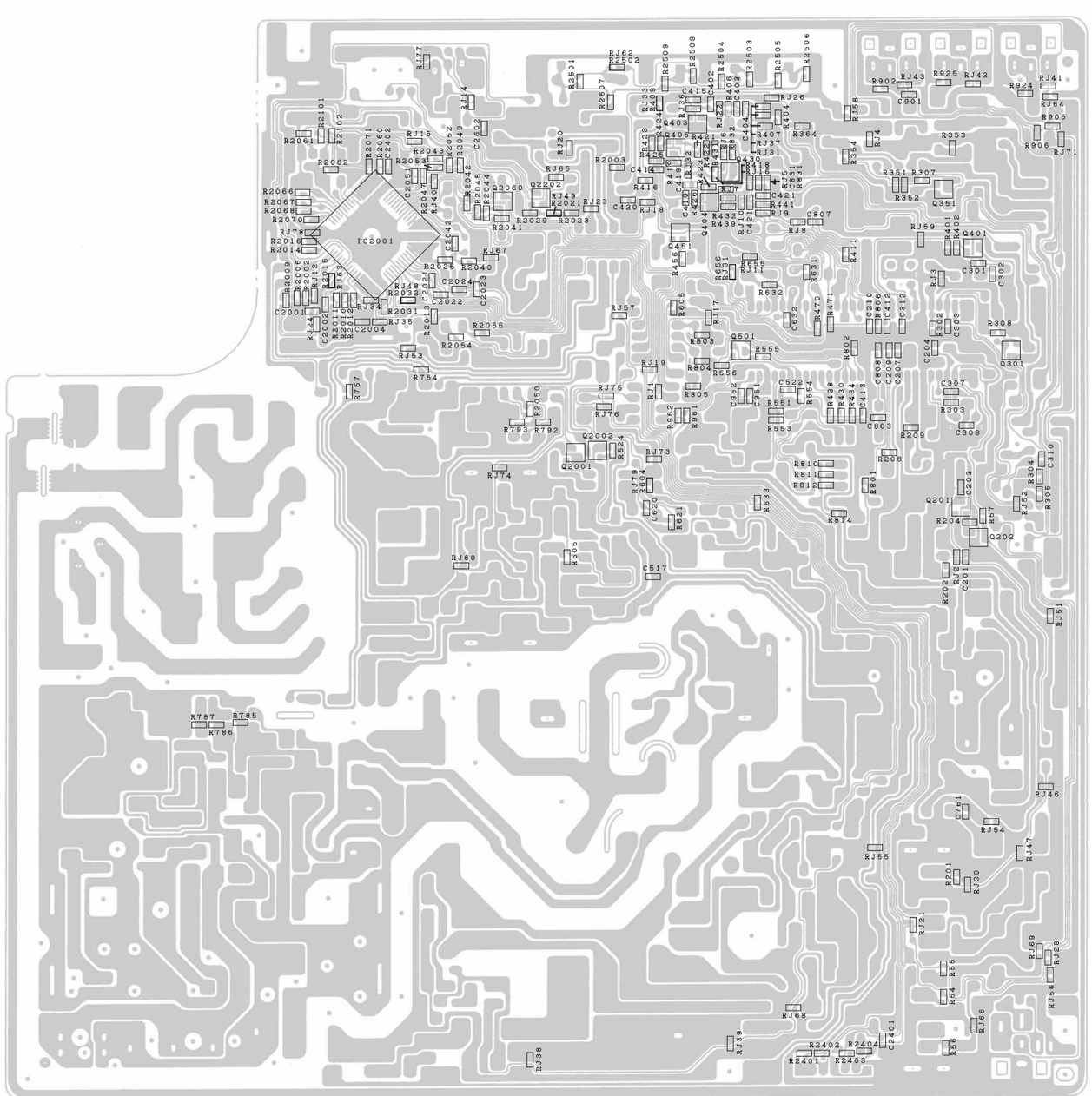


PWB-B : CRT Unit (Wiring Side)

19K-M100, CK19M10	19K-M100, CK19M10
19K-M100S, 20MK10	19K-M100S, 20MK10

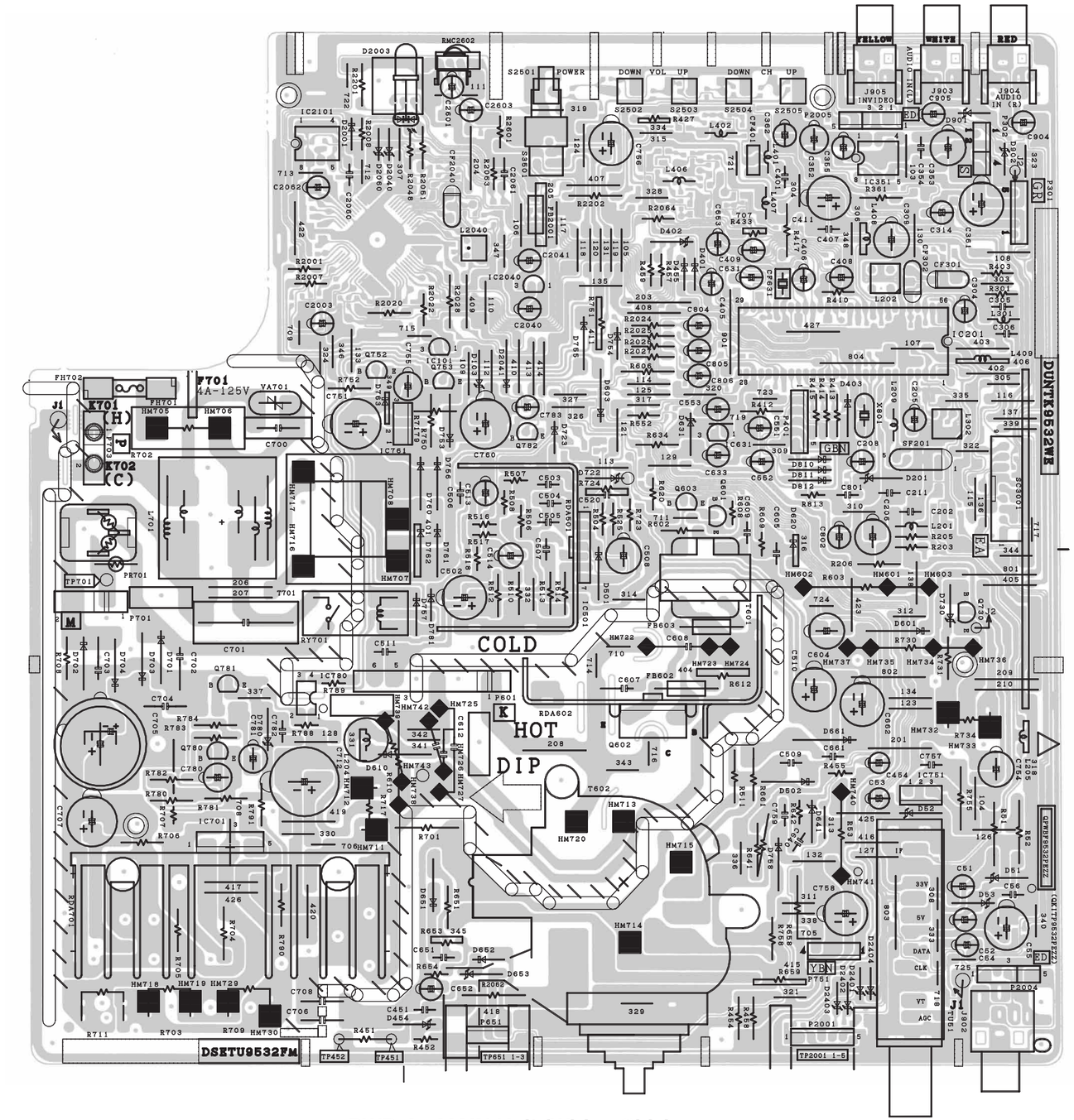


PWB-B : CRT Unit (Chip Parts Side)

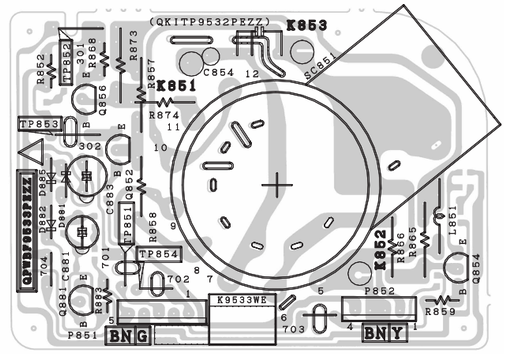


PWB-A : MAIN Unit (Chip Parts Side)

MODELS 19K-M100S, 20MK10 PRINTED WIRING BOARD ASSEMBLIES

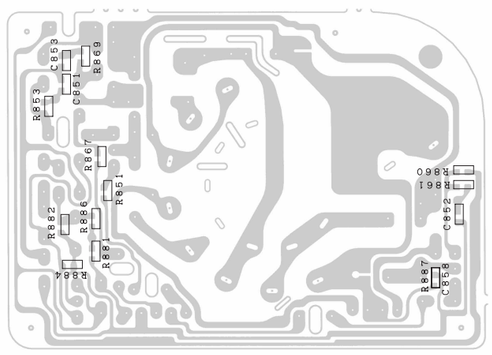


PWB-A : MAIN Unit (Wiring Side)

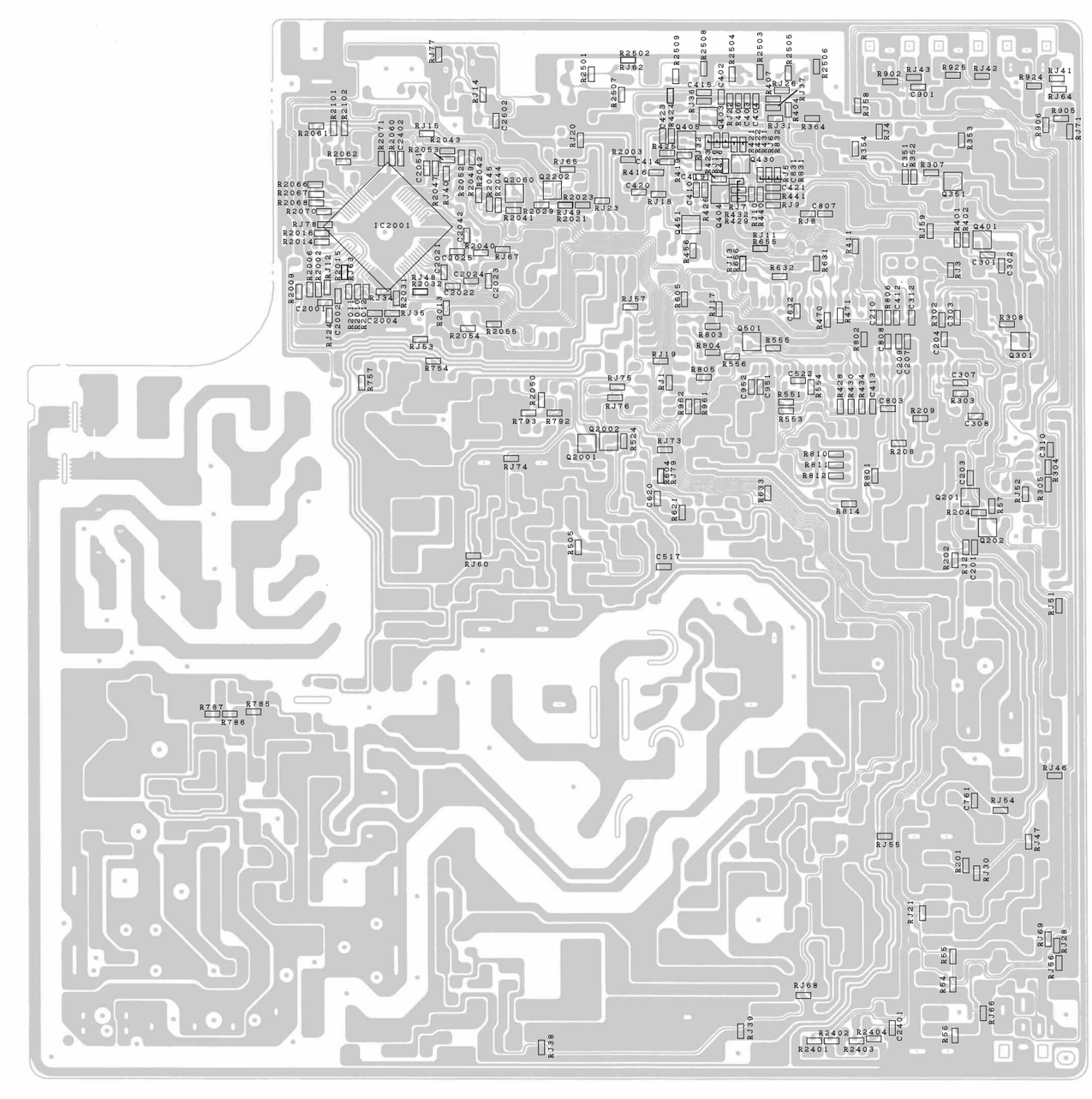


PWB-B : CRT Unit (Wiring Side)

19K-M100, CK19M10	19K-M100, CK19M10
19K-M100S, 20MK10	19K-M100S, 20MK10



PWB-B : CRT Unit (Chip Parts Side)



PWB-A : MAIN Unit (Chip Parts Side)

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which dose no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

MARK★: SPARE PARTS-DELIVERY SECTION

▲ MARK : X- RAY RELATED PARTS

LISTE DES PIECES

CHANGE DES PIECES

Les pi`eces de rechange qui pr élelesentent ces caract éleristiques sp éleciales de s élecurit éle, sont identifi élees dans ce manuel : les pi`eces élelectriques qui pr élesentent ces particularit éles, sont rep éler élee par la marque ⚠ et sont hachur élees dans les listes de pi`eces et dans les diagrammes sch élematiques.
La substitution d'une pi`ece de rechange par une autre qui ne pr éLesente pas les m éoemes caract éLeristiques de s élecurit éle que la pi`ece recommand élee parl'usine et dans ce manuel de service, peut provoquer une éLelectrocution, un incendie ou toutautre sinistre.

"COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE 2. NO. DE REF
3. NO. DE PIECE 4. DESCRIPTION

in **CANADA**: Contact SHARP Electronics of Conada Limited Phone (416) 890-2100

★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE

▲ MARQUE : PIECES RELATIVE AUX RAYONS X

Ref. No.	Part No.	★	Description	Code

PICTURE TUBE

19K-M100, CK19M10

▲⚠	V101	VB48AFS15X/*S	M	Picture Tube	CC
		or			
		VB48KZL70X/*S			
▲⚠	DY601	RCiLH0099MEZZ	M	Deflection Yoke	AY
⚠	L702	RCiLG0014MEZZ	M	Degaussing Coil	AM
		MSPRT0002MEZZ	M	Spring for CRT	AA
		PMAGF3003MEZZ	M	Magnet Ass'y	AE
		QEARC1913MEZZ	M	Ground-Part	AE

19K-M100S, 20MK10

▲⚠	V101	BV48KRD89X/1E	M	Picture Tube	CB
▲⚠	DY601	RCiLH0100MEZZ	M	Deflection Yoke	AZ
⚠	L702	RCiLG0014MEZZ	M	Degaussing Coil	AM
		MSPRT0002MEZZ	M	Spring for CRT	AA
		PMAGF3003MEZZ	M	Magnet Ass'y	AE
		QEARC1913MEZZ	M	Ground-Part	AE

PRINTED WIRING BOARD ASSEMBLIES *(NOT REPLACEMENT ITEM)*

PWB-A	DUNTK9529WEV1	–	MAIN Unit (19K-M100)	—
PWB-A	DUNTK9529WEV5	–	MAIN Unit (CK19M10)	—
PWB-A	DUNTK9532WEV0	–	MAIN Unit (19K-M100S)	—
PWB-A	DUNTK9532WEV1	–	MAIN Unit (20MK10)	—
PWB-B	DUNTK9530WEV1	–	CRT Unit (19K-M100, CK19M10)	—
PWB-B	DUNTK9533WEV0	–	CRT Unit (19K-M100S, 20MK10)	—

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT

TUNER

THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDETLY

⚠	TU51	VTUVTST6UF78/	J	Tuner	BD

INTEGRATED CIRCUITS

	IC101	VHiKA78S05P-1	J	KIA78S05P	AD
		or			
		VHiTA7805S/-1			
▲⚠	IC201	RH-iX2933CEZZ	J	TA1268N	AX
	IC351	VHiTDA7233/-1	J	TDA7233	AF
⚠	IC501	VHiTA8403K/-1	J	TA8403k	AL
▲⚠	IC701	VHiSTR301301E	J	STR30130	AP
⚠	IC751	VHiKA7809Pi-1	R	KIA7809PI	AE
		or			
		VHiTA7809S/-1			
⚠	IC761	VHiKA7812Pi-1	R	KIA7812PI	AE
		or			
		VHiTA7812S/-1			
	IC2001	RH-iX3087CEN2	J	I.C.	AX
	IC2040	VHiPST994C/-1	J	PST994C	AD
	IC2101	RH-iX2447CEN1	J	ST24C01B6	AL
		or			
		RH-iX2448CEN1			AN

TRANSISTORS

You can substitute "VS2SD601AR/-1" for "VS2SC2462-C-1".

	Q201	VS2SC2735//1E	J	2SC2735	AC
	Q351	VS2SD601AR/-1	J	2SD601	AC
	Q401	VS2SD601AR/-1	J	2SD601	AC

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT (Continued)

	Q403	VS2SD601AR/-1	J	2SD601	AC
	Q404	VS2SB709AR/-1	J	2SB709	AC
	Q451	VS2SB709AR/-1	J	2SB709	AC
	Q501	VS2SD601AR/-1	J	2SD601	AC
	Q601	VS2SC2655Y/-1	J	2SC2655	AE
⚠	Q602	VS2SD2586//1E	J	2SD2586	AM
		or			
		VS2SD2095//1E	J	2SD2586	AN
	Q603	VS2SC945AQ/-1	J	2SC945	AB
		or			
		VS2SC1815YW-1			
		or			
		VS2SC3198-Y-1			
	Q752	VS2SC945AQ/-1	J	2SC945	AB
		or			
		VS2SC1815YW-1			
		or			
		VS2SC3198-Y-1			
	Q753	VS2SA1013//1E	J	2SA1013	AD
	Q2001	VS2SD601AR/-1	J	2SD601	AC
	Q2002	VS2SD601AR/-1	J	2SD601	AC
	Q2060	VS2SD601AR/-1	J	2SD601	AC

DIODES

You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".

	D51	RH-EX0611GEZZ	J	Zener Diode 5.1V	AA
	D52	RH-EX0676GEZZ	J	Zener Diode 32V	AA
		or			
		RH-EX0701GEZZ			AB
	D53	RH-EX0611GEZZ	J	Zener Diode 5.1V	AA
	D401	VHD1SS119//-1	J	Diode	AB
	D402	RH-EX0092CEZZ	J	Zener Diode 3.9V	AB
	D454	RH-EX0103CEZZ	J	Zener Diode 5.6V	AB
	D455	VHD1SS119//-1	J	Diode	AB
	D501	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			AB
⚠	D502	RH-DX0131CEZZ	J	Diode	AC
	D601	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
	D603	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			AB
	D631	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
	D641	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
▲⚠	D651	RH-DX0131CEZZ	J	Diode	AC
▲⚠	D652	VHD1SS119//-1	J	Diode	AB
▲⚠	D653	RH-EX0091CEZZ	J	Zener Diode 22V	AB
		or			
		RH-EX0660GEZZ			
		or			
		RH-EX1311CEZZ			

Ref. No.	Part No.	★	Description	Code
⚠	D661	RH-DX0444CEZZ	J	Diode	AH
⚠	D701	RH-DX0154CEZZ	J	Diode	AC
⚠	D702	RH-DX0154CEZZ	J	Diode	AC
⚠	D703	RH-DX0154CEZZ	J	Diode	AC
⚠	D704	RH-DX0154CEZZ	J	Diode	AC
	D753	VHD1SS119//-1	J	Diode	AB
	D754	VHD1SS119//-1	J	Diode	AB
	D755	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
⚠	D756	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
	D757	VHD1SS119//-1	J	Diode	AB
⚠	D758	RH-DX0131CEZZ	J	Diode	AC
⚠	D760	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
⚠	D761	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
⚠	D762	RH-DX0441CEZZ	J	Diode	AC
		or			
		RH-DX0110CEZZ			
	D763	VHD1SS119//-1	J	Diode	AB
	D2001	VHD1SS119//-1	J	Diode	AB

PACKAGED CIRCUITS

⚠	PR701	RMPTP0026CEZZ	J	Packaged Circuit	AF
	X801	RCRSB0001PEZZ	R	Crystal, 3.58MHz	AL
		or			
		RCRSB0205CEZZ			AF

FILTERS

	CF301	RFiLC0403CEZZ	J	Filter	AE
		or			
		RFiLC0029TAZZ			AD
	CF401	RFiLC0013CEZZ	J	Filter	AE
		or			
		RFiLC0004PEZZ			AE
	CF631	RFiLA0034CEZZ	J	Filter	AD
	CF2040	RFiLC0121GEZZ	J	Filter	AD
	SF201	RFiLC0405CEZZ	J	SAW Filter	AH

COILS

	L201	VP-XF1R2K0000	J	Peaking 1.2µH	AB
	L202	RCiLi0612CEZZ	J	If Coil	AE
		or			
		RCiLi0588CEZZ			AF
	L301	VP-XF8R2K0000	J	Peaking 8.2µH	AB
	L302	RCiLi0613CEZZ	J	If Coil	AE
		or			
		RCiLi0605CEZZ			AE
	L401	VP-XF120K0000	J	Peaking 12µH	AB
	L402	VP-XF100K0000	J	Peaking 10µH	AB
	L406	VP-XF680K0000	J	Peaking 68µH	AB
	L408	VP-XF100K0000	J	Peaking 10µH	AB

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
⚠ L701	RCiLF0029PEZZ		Coil (19K-M100)	AH
	or			
	RCiLF0087CEZZ			
	or			
	RCiLF0235CEZZ			AK
⚠ L701	RCiLF0090CEZZ	J	Coil (CK19M10)	AL
L2040	RCiLB0159CEZZ	J	Oscillation Coil	AE

TRANSFORMERS

⚠ T601	RTRNZ0168CEZZ	J	H-Driver	AH
▲⚠ T602	RTRNF0149PEZZ	R		BE
⚠ T701	RTRNP0527CEZZ	J	Power	AM
	or			
	RTRNP0518CEZZ			

CAPACITORS

[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

C51	VCEA0A1CW476M	J	47	16V	EL.	AB
C52	VCSATA1CE226K	J	22	16V	Tantalum	AD
C53	VCEA0A1HW105M	J	1	50V	EL.	AB
C54	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C55	VCEA0A1CW477M	J	470	16V	EL.	AC
C201	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C202	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C203	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C204	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C205	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C206	VCEA0A1CW227M	J	220	16V	EL.	AC
C207	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C208	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C209	VCKYCY1HB222K	J	2200p	50V	Ceramic	AA
C210	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C302	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C303	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C304	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C305	VCKYPA1HB151K	J	150p	50V	Ceramic	AA
C306	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C308	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C309	VCEA0A1CW227M	J	220	16V	EL.	AC
C312	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C314	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C351	VCKYCY1HB562K	J	5600p	50V	Ceramic	AA
C352	VCEA0A1CW107M	J	100	16V	EL.	AC
C353	VCEA0A1CW337M	J	330	16V	EL.	AC
C354	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C355	VCEA0A1CW226M	J	22	16V	EL.	AB
C361	VCEA0A1CW477M	J	470	16V	EL.	AC
C362	VCEA0A1CW476M	J	47	16V	EL.	AB
C403	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C404	VCCCCY1HH680J	J	68p	50V	Ceramic	AA
C405	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C406	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C407	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C408	VCEA0A1CW106M	J	10	16V	EL.	AB
C409	VCEA0A1HW105M	J	1	50V	EL.	AB
C410	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C411	VCEAGA1CW108M	J	1000	16V	EL.	AD
C413	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C414	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C419	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C420	VCCCCY1HH471J	J	470p	50V	Ceramic	AA
C451	RC-QZA563TAYK	J	0.056	50V	Mylar	AB
C454	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C502	VCEA0A1EW477M	J	470	25V	EL.	AD
C504	VCKYPA2HB391K	J	390p	500V	Ceramic	AA
C505	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C507	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C508	VCEAGA1VW107M	J	100	35V	EL.	AC
C509	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C510	VCEAGA1VW477M	J	470	35V	EL.	AD
C511	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C513	VCEACA1HC225M	J	2.2	50V	EL.	AC
C514	VCEACA1HC225J	J	2.2	50V	EL.	AC
C517	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C522	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C551	VCSATA1CE225K	J	2.2	16V	Tantalum	AB
C552	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C604	VCEA0A1CW227M	J	220	16V	EL.	AC
▲⚠ C608	VCFPPD3CA772H	J	7700p	1600V	M-Poly	AF
C609	RC-QZA223TAYK	J	0.022	50V	Mylar	AB
C612	VCFPPJ2EB474J	J	0.47	250V	M-Poly	AF
C631	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C632	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C633	VCEA0A1HW105M	J	1	50V	EL.	AB
C652	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C653	VCEA0A1CW106M	J	10	16V	EL.	AB
C661	VCKYPA2HB152K	J	1500p	500V	Ceramic	AA
C662	VCEA0A1CW477M	J	470	16V	EL.	AC
⚠ C701	RC-FZ015SCEZZ	J	0.047	AC125V	Plastic	AE
C702	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
C703	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
C704	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
⚠ C705	RC-EZ0422CEZZ	J	470	200V	EL.	AN
⚠ C706	RC-KZ0092GEZZ	J	3300p	AC125V	Ceramic	AC
	or					
	RC-KZ0311CEZZ					
C707	VCEAGA2CW226M	J	22	160V	EL.	AD
⚠ C712	RC-EZ0638CEZZ	J	33	160V	EL.	AG
C751	VCEA0A1VW477M	J	470	35V	EL.	AB
C754	VCEA0A1CW337M	J	330	16V	EL.	AC
C755	VCEA0A1CW107M	J	100	16V	EL.	AC
C756	VCEAGA1CW108M	J	1000	16V	EL.	AD
C757	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
⚠ C758	VCEAGA2EW106M	J	10	250V	EL.	AC
C759	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C760	VCEAGA1CW108M	J	1000	16V	EL.	AD
C801	RC-QZA223TAYK	J	0.022	50V	Mylar	AB
C802	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C803	VCCCCY1HH120J	J	12p	50V	Ceramic	AA
C804	VCEA0A1HW104M	J	0.1	50V	EL.	AB
C805	VCEA0A1HW104M	J	0.1	50V	EL.	AB

Ref. No.	Part No.	★	Description			Code

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT (Continued)

C806	VCEA0A1HW104M	J	0.1	50V	EL.	AB
C807	VCCCCY1HH820J	J	82p	50V	Ceramic	AA
C901	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C905	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C2001	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2002	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2021	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2022	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2023	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2024	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2040	VCEA0A1AW107M	J	100	10V	EL.	AB
C2041	VCEA0A1HW105M	J	1	50V	EL.	AB
C2051	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2060	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C2061	VCKYD41HB101K	J	100p	50V	Ceramic	AA
C2062	VCEA0A1AW107M	J	100	10V	EL.	AB
C2402	VCCCCY1HH560J	J	56p	50V	Ceramic	AA
C2601	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C2602	VCCCCY1HH101J	J	100p	50V	Ceramic	AA

RESISTORS

[M-Ox.··· Metal Oxide, M-Film··· Metal Film]

RJ1	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ3	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ5	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ6	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ7	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ9	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ10	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ12	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ15	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ17	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ18	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ19	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ20	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ21	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ23	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ24	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ26	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ30	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ31	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ32	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ35	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ40	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ47	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ49	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ52	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ55	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ57	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ59	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ62	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ63	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ66	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ67	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ68	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ71	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ75	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ77	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ78	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
RJ79	VRN-MD2AL000J	J	0	1/10W	M-Film	AA
⚠ R51	VRS-VV3AB331J	J	330	1W	M-Ox.	AA
⚠ R52	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
⚠ R53	VRS-VV3LB223J	J	22k	3W	M-Ox.	AB
R54	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R55	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R56	VRN-MD2AL823J	J	82k	1/10W	M-Film	AA
R57	VRN-MD2AL392J	J	3.9k	1/10W	M-Film	AA
R201	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R202	VRN-MD2AL122J	J	1.2k	1/10W	M-Film	AA
R203	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R204	VRN-MD2AL270J	J	27	1/10W	M-Film	AA
R205	VRD-RA2BE391J	J	390	1/8W	Carbon	AA
R206	VRD-RA2EE151J	J	150	1/4W	Carbon	AA
R208	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R301	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R302	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R303	VRN-MD2AL153J	J	15k	1/10W	M-Film	AA
R307	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R352	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R353	VRN-MD2AL4R7J	J	4.7	1/10W	M-Film	AA
R354	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R361	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R364	VRN-MD2AL473J	J	47k	1/10W	M-Film	AA
R401	VRN-MD2AL682J	J	6.8k	1/10W	M-Film	AA
R403	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
R404	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R407	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R409	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R410	VRD-RA2BE563J	J	56k	1/8W	Carbon	AA
R411	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R412	VRD-RA2EE561J	J	560	1/4W	Carbon	AA
R413	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R414	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R415	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R416	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R417	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R418	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R419	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R423	VRN-MD2AL222J	J	2.2k	1/10W	M-Film	AA
R426	VRN-MD2AL271J	J	270	1/10W	M-Film	AA
R440	VRN-MD2AL821J	J	820	1/10W	M-Film	AA
⚠ R451	VRS-SV2HC103J	J	10k	1/2W	M-Ox.	AA
R452	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R454	VRD-RA2BE334J	J	330k	1/8W	Carbon	AA
R455	VRD-RA2BE392J	J	3.9k	1/8W	Carbon	AA
R456	VRN-MD2AL223J	J	22k	1/10W	M-Film	AA
R457	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R458	VRD-RA2BE334J	J	330k	1/8W	Carbon	AA
R459	VRD-RA2BE123J	J	12k	1/8W	Carbon	AA
R504	VRD-RA2BE471J	J	470	1/8W	Carbon	AA
R505	VRN-MD2AL101J	J	100	1/10W	M-Film	AA

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★			Description	Code
R506	VRD-RA2BE683G	J	68k	1/8W	Carbon	AA
R507	VRD-RA2BE104G	J	100k	1/8W	Carbon	AA
R508	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R510	VRD-RM2HD1R5J	J	1.5	1/2W	Carbon	AA
⚠ R511	VRN-SV2HB1R5J	J	1.5	1/2W	M-Film	AB
R512	VRD-RM2HD681J	J	680	1/2W	Carbon	AA
R516	VRD-RA2BE683G	J	68k	1/8W	Carbon	AA
R517	VRD-RA2BE103G	J	10k	1/8W	Carbon	AA
R518	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
R524	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R525	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R552	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R553	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
R554	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R555	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R556	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R602	VRD-RA2EE820J	J	82	1/4W	Carbon	AA
⚠ R603	VRS-VV3LB220J	J	22	3W	M-Ox.	AB
R605	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R606	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R608	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R609	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
⚠ R610	VRS-VV3DB391J	J	390	2W	M-Ox.	AA
R620	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R621	VRN-MD2AL682J	J	6.8k	1/10W	M-Film	AA
R631	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R632	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R633	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R634	VRD-RM2HD121J	J	120	1/2W	Carbon	AA
⚠ R641	VRS-VV3AB682J	J	6.8k	1W	M-Ox.	AA
R642	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
▲⚠ R651	VRD-RM2HD1R0J	J	1	1/2W	Carbon	AA
⚠ R654	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
▲⚠ R655	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
▲⚠ R656	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
⚠ R659	VRN-VV3AB2R2J	J	2.2	1W	M-Film	AA
⚠ R661	VRN-VV3ABR47J	J	0.47	1W	M-Film	AA
⚠ R701	VRC-UA2HG275K	J	2.7M (19K-M100)	1/2W	Solid	AA
⚠ R701	VRC-UB2HG275K	J	2.7M (CK19M10)	1/2W	Solid	AF
⚠ R702	VRW-KP3HC1R8K	J	1.8	5W	Cement	AC
⚠ R703	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
R704	VRD-RM2HD123J	J	12k	1/2W	Carbon	AA
R705	VRD-RA2EE334J	J	330k	1/4W	Carbon	AA
R706	VRD-RM2HD470J	J	47	1/2W	Carbon	AA
⚠ R707	VRN-VV3DB1R5J	J	1.5	2W	M-Film	AB
⚠ R708	VRD-RM2HD824J	J	820k	1/2W	Carbon	AA
⚠ R709	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
⚠ R711	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
⚠ R717	VRS-KA3HG3R3K	J	3.3	5W	M-Ox.	AD
⚠ R730	VRS-VV3DB270J	J	27	2W	M-Ox.	AA
R750	VRS-VV3AB561J	J	560	1W	M-Ox.	AA
R752	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R754	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
⚠ R755	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
R757	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
⚠ R758	VRS-SV2HC100J	J	10	1/2W	M-Ox.	AA
R801	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R802	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R803	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R804	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R805	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R806	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R902	VRN-MD2AL750J	J	75	1/10W	M-Film	AA
R906	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R925	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
R961	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R962	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2001	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2002	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2006	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2008	VRD-RA2BE224J	J	220k	1/8W	Carbon	AA
R2009	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2010	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2011	VRN-MD2AL821J	J	820	1/10W	M-Film	AA
R2012	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2020	VRD-RM2HD223J	J	22k	1/2W	Carbon	AA
R2022	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2024	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2025	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2026	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2027	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2028	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2029	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2031	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2032	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2040	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2041	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R2042	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2043	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2044	VRN-MD2AL683J	J	68k	1/10W	M-Film	AA
R2045	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2047	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R2048	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2049	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R2054	VRN-MD2AL222J	J	2.2k	1/10W	M-Film	AA
R2055	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2060	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R2061	VRN-MD2AL562J	J	5.6k	1/10W	M-Film	AA
R2062	VRN-MD2AL183J	J	18k	1/10W	M-Film	AA
R2063	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2064	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2066	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2067	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2068	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2070	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2101	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2102	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2401	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2402	VRN-MD2AL101J	J	100	1/10W	M-Film	AA

Ref. No.	Part No.	★	Description	Code

PWB-A : DUNTK9529WEV1 (19K-M100)
PWB-A : DUNTK9529WEV5 (CK19M10)
MAIN UNIT (Continued)

R2403	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2404	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2501	VRN-MD2AL123J	J	12k	1/10W	M-Film	AA
R2503	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
R2504	VRN-MD2AL123J	J	12k	1/10W	M-Film	AA
R2505	VRN-MD2AL563J	J	56k	1/10W	M-Film	AA
R2506	VRN-MD2AL563J	J	56k	1/10W	M-Film	AA
R2507	VRN-MD2AL823J	J	82k	1/10W	M-Film	AA
R2508	VRN-MD2AL153J	J	15k	1/10W	M-Film	AA
R2509	VRN-MD2AL272J	J	2.7k	1/10W	M-Film	AA
R2601	VRD-RA2BE331J	J	330	1/8W	Carbon	AA

SWITCHES

S2501	QSW-K0079GEZZ	J	Power	AB
S2502	QSW-K0079GEZZ	J	Vol-Down	AB
S2503	QSW-K0079GEZZ	J	Vol-Up	AB
S2504	QSW-K0079GEZZ	J	CH-Down	AB
S2505	QSW-K0079GEZZ	J	CH-Up	AB

MISCELLANEOUS PARTS

⚠ RY701	RRLYU0036CEZZ	J	Relay		AM
⚠ F701	QFS-B4023CEZZ	J	Fuse, 4A(125V)		AC
	or				
	QFS-B4021GEZZ				
FB602	RBLN-0037CEZZ	J	Ferrite Bead		AB
FB603	RBLN-0037CEZZ	J	Ferrite Bead		AB
FH701	QFSHD1013CEZZ	J	Fuse Holder		AC
FH702	QFSHD1014CEZZ	J	Fuse Holder		AC
J903	QJAKE0159CEZZ	J	Jack, Audio IN		AF
J905	QJAKE0158CEZZ	J	Jack, Video IN		AF
P302	QPLGN0261CEZZ	J	Plug 2-pin (S)		AB
P401	QPLGN0561CEZZ	J	Plug 5-pin (GBN)		AB
⚠ P601	QPLGN0603CEZZ	J	Plug 6-pin (K)		AB
P651	QPLGN0361CEZZ	J	Plug 3-pin		AB
P701	QPLGN0207CEZZ	J	Plug 2-pin (M)		AA
P751	QPLGN0461CEZZ	J	Plug 4-pin (YBN)		AB
P2001	QPLGN0561CEZZ	J	Plug 5-pin		AB
RMC2601	RRMCU0227CEZZ	J	Remote Receiver		AK
	or				
	RRMCU0222CEZZ				
RDA501	PRDAR0218PEFW	R	Heat Sink, IC501		AD
RDA602	PRDAR0216PEFW	R	Heat Sink, Q602		AE
RDA701	PRDAR0238PEFW	R	Heat Sink, IC701		AN
TP701	QLUGP0102PEZZ	R	Lug		AA
	PZETM0016CEZZ	J	Insulator		AB
	LHLDW1002PEZZ	R	Holder		AB
	LX-BZ3049GEFD	J	Screw		AA

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT

TUNER

THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDETLY

⚠ TU51	VTUVTST6UF78/	J	Tuner		BD

INTEGRATED CIRCUITS

IC101	VHiKA78S05P-1	J	KIA78S05P		AD
	or				
	VHiTA7805S/-1				
▲⚠ IC201	RH-iX2933CEZZ	J	TA1268N		AX
IC351	VHiTDA7233/-1	J	TDA7233		AF
⚠ IC501	VHiTA8403K/-1	J	TA8403K		AL
▲⚠ IC701	VHiSTR301301E	J	STR30130		AP
⚠ IC751	VHiKA7809Pi-1	R	KIA7809PI		AE
	or				
	VHiTA7809S/-1				
⚠ IC761	VHiKA7812Pi-1	R	KIA7812PI		AE
	or				
	VHiTA7812S/-1				
IC2001	RH-iX3087CEN2	J	I.C.		AX
IC2040	VHiPST994C/-1	J	PST994C		AD
IC2101	RH-iX2447CEN1	J	ST24C01B6		AL
	or				
	RH-iX2448CEN1				AN

TRANSISTORS

You can substitute "VS2SD601AR/-1" for "VS2SC2462-C-1".

Q201	VS2SC2735//1E	J	2SC2735		AC
Q351	VS2SD601AR/-1	J	2SD601		AC
Q401	VS2SD601AR/-1	J	2SD601		AC
Q403	VS2SD601AR/-1	J	2SD601		AC
Q404	VS2SB709AR/-1	J	2SB709		AC
Q451	VS2SB709AR/-1	J	2SB709		AC
Q501	VS2SD601AR/-1	J	2SD601		AC
Q601	VS2SC2655Y/-1	J	2SC2655		AE
⚠ Q602	VS2SD2586//1E	J	2SD2586		AM
	or				
	VS2SD2095//1E				AN
Q603	VS2SC945AQ/-1	J	2SC945		AB
	or				
	VS2SC1815YW-1				
	or				
	VS2SC3198-Y-1				
Q752	VS2SC945AQ/-1	J	2SC945		AB
	or				
	VS2SC1815YW-1				
	or				
	VS2SC3198-Y-1				
Q753	VS2SA1013//1E	J	2SA1013		AD
Q2001	VS2SD601AR/-1	J	2SD601		AC
Q2002	VS2SD601AR/-1	J	2SD601		AC
Q2060	VS2SD601AR/-1	J	2SD601		AC

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT (Continued)

DIODES

You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".

Ref. No.	Part No.	★	Description	Code
D51	RH-EX0611GEZZ	J	Zener Diode 5.1V	AA
D52	RH-EX0676GEZZ	J	Zener Diode 32V	AA
	or			
	RH-EX0701GEZZ			AB
D53	RH-EX0611GEZZ	J	Zener Diode 5.1V	AA
D401	VHD1SS119//-1	J	Diode	AB
D402	RH-EX0092CEZZ	J	Zener Diode 3.9V	AB
D454	RH-EX0103CEZZ	J	Zener Diode 5.6V	AB
D455	VHD1SS119//-1	J	Diode	AB
D501	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			AB
⚠ D502	RH-DX0131CEZZ	J	Diode	AC
D601	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
D603	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			AB
D631	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
D641	RH-EX0630GEZZ	J	Zener Diode 9.1V	AA
▲⚠ D651	RH-DX0131CEZZ	J	Diode	AC
▲⚠ D652	VHD1SS119//-1	J	Diode	AB
▲⚠ D653	RH-EX0091CEZZ	J	Zener Diode 22V	AB
	or			
	RH-EX0660GEZZ			
	or			
	RH-EX1311CEZZ			
⚠ D661	RH-DX0444CEZZ	J	Diode	AH
⚠ D701	RH-DX0154CEZZ	J	Diode	AC
⚠ D702	RH-DX0154CEZZ	J	Diode	AC
⚠ D703	RH-DX0154CEZZ	J	Diode	AC
⚠ D704	RH-DX0154CEZZ	J	Diode	AC
D753	VHD1SS119//-1	J	Diode	AB
D754	VHD1SS119//-1	J	Diode	AB
D755	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
⚠ D756	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
D757	VHD1SS119//-1	J	Diode	AB
⚠ D758	RH-DX0131CEZZ	J	Diode	AC
⚠ D760	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
⚠ D761	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
⚠ D762	RH-DX0441CEZZ	J	Diode	AC
	or			
	RH-DX0110CEZZ			
D763	VHD1SS119//-1	J	Diode	AB
D2001	VHD1SS119//-1	J	Diode	AB

PACKAGED CIRCUITS

Ref. No.	Part No.	★	Description	Code
⚠ PR701	RMPTP0026CEZZ	J	Packaged Circuit	AF
X801	RCRSB0001PEZZ	R	Crystal 3.58MHz	AL
	or			
	RCRSB0205CEZZ			AF

FILTERS

Ref. No.	Part No.	★	Description	Code
CF301	RFiLC0403CEZZ	J	Filter	AE
	or			
	RFiLC0029TAZZ			AD
CF401	RFiLC0013CEZZ	J	Filter	AE
	or			
	RFiLC0004PEZZ			AE
CF631	RFiLA0034CEZZ	J	Filter	AD
CF2040	RFiLC0121GEZZ	J	Filter	AD
SF201	RFiLC0405CEZZ	J	SAW Filter	AH

COILS

Ref. No.	Part No.	★	Description	Code
L201	VP-XF1R2K0000	J	Peaking 1.2µH	AB
L202	RCiLi0612CEZZ	J	If Coil	AE
	or			
	RCiLi0588CEZZ			AF
L301	VP-XF8R2K0000	J	Peaking 8.2µH	AB
L302	RCiLi0613CEZZ	J	If Coil	AE
	or			
	RCiLi0605CEZZ			AE
L401	VP-XF120K0000	J	Peaking 12µH	AB
L402	VP-XF100K0000	J	Peaking 10µH	AB
L406	VP-XF680K0000	J	Peaking 68µH	AB
L408	VP-XF100K0000	J	Peaking 10µH	AB
⚠ L701	RCiLF0029PEZZ	R	Coil	AH
	or			
	RCiLF0087CEZZ			
	or			
	RCiLF0235CEZZ			AK
L2040	RCiLB0159CEZZ	J	Oscillation Coil	AE

TRANSFORMERS

Ref. No.	Part No.	★	Description	Code
⚠ T601	RTRNZ0168CEZZ	J	H-Driver	AH
▲⚠ T602	RTRNF0149PEZZ	R		BE
⚠ T701	RTRNP0527CEZZ	J	Power	AM
	or			
	RTRNP0518CEZZ			

CAPACITORS

[EL.··· Electrolytic, M-Poly.··· Metalized Polypro Film]

Ref. No.	Part No.	★				Code
C51	VCEA0A1CW476M	J	47	16V	EL.	AB
C52	VCSATA1CE226K	J	22	16V	Tantalum	AD
C53	VCEA0A1HW105M	J	1	50V	EL.	AB
C54	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C55	VCEA0A1CW477M	J	470	16V	EL.	AC

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
C201	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C202	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C203	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C204	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C205	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C206	VCEA0A1CW227M	J	220	16V	EL.	AC
C207	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C208	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C209	VCKYCY1HB222K	J	2200p	50V	Ceramic	AA
C210	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C302	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C303	VCKYCY1HB472K	J	4700p	50V	Ceramic	AA
C304	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C305	VCKYPA1HB151K	J	150p	50V	Ceramic	AA
C306	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C308	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C309	VCEA0A1CW227M	J	220	16V	EL.	AC
C312	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C314	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C351	VCKYCY1HB562K	J	5600p	50V	Ceramic	AA
C352	VCEA0A1CW107M	J	100	16V	EL.	AC
C353	VCEA0A1CW337M	J	330	16V	EL.	AC
C354	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C355	VCEA0A1CW226M	J	22	16V	EL.	AB
C361	VCEA0A1CW477M	J	470	16V	EL.	AC
C362	VCEA0A1CW476M	J	47	16V	EL.	AB
C403	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C404	VCCCCY1HH680J	J	68p	50V	Ceramic	AA
C405	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C406	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C407	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C408	VCEA0A1CW106M	J	10	16V	EL.	AB
C409	VCEA0A1HW105M	J	1	50V	EL.	AB
C410	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C411	VCEAGA1CW108M	J	1000	16V	EL.	AD
C413	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C414	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C419	VCCCCY1HH330J	J	33p	50V	Ceramic	AA
C420	VCCCCY1HH471J	J	470p	50V	Ceramic	AA
C451	RC-QZA563TAYK	J	0.056	50V	Mylar	AB
C454	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C502	VCEA0A1EW477M	J	470	25V	EL.	AD
C504	VCKYPA2HB391K	J	390p	500V	Ceramic	AA
C505	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C507	VCKYPA1HB102K	J	1000p	50V	Ceramic	AA
C508	VCEAGA1VW107M	J	100	35V	EL.	AC
C509	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C510	VCEAGA1VW477M	J	470	35V	EL.	AD
C511	VCQYTA1HM473K	J	0.047	50V	Mylar	AB
C513	VCEACA1HC225M	J	2.2	50V	EL.	AC
C514	VCEACA1HC225J	J	2.2	50V	EL.	AC
C517	VCKYCY1HB102K	J	1000p	50V	Ceramic	AA
C522	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C551	VCSATA1CE225K	J	2.2	16V	Tantalum	AB
C552	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C604	VCEA0A1CW227M	J	220	16V	EL.	AC
▲⚠ C608	VCFPPD3CA802H	J	8000p	1600V	M-Poly.	AF
C609	RC-QZA223TAYK	J	0.022	50V	Mylar	AB
C612	VCFPPJ2EB474J	J	0.47	250V	M-Poly.	AF
C631	VCEA0A1HW225M	J	2.2	50V	EL.	AB
C632	VCKYCY1HF103Z	J	0.01	50V	Ceramic	AA
C633	VCEA0A1HW105M	J	1	50V	EL.	AB
C652	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C653	VCEA0A1CW106M	J	10	16V	EL.	AB
C661	VCKYPA2HB152K	J	1500p	500V	Ceramic	AA
C662	VCEA0A1CW477M	J	470	16V	EL.	AC
⚠ C701	RC-FZ015SCEZZ	J	0.047	AC125V	Plastic	AE
C702	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
C703	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
C704	VCKYPB2HE103P	J	0.01	500V	Ceramic	AB
⚠ C705	RC-EZ0422CEZZ	J	470	200V	EL.	AN
⚠ C706	RC-KZ0092GEZZ	J	3300p	AC125V	Ceramic	AC
	or					
	RC-KZ0311CEZZ					
C707	VCEAGA2CW226M	J	22	160V	EL.	AD
⚠ C712	RC-EZ0638CEZZ	J	33	160V	EL.	AG
C751	VCEA0A1VW477M	J	470	35V	EL.	AB
C754	VCEA0A1CW337M	J	330	16V	EL.	AC
C755	VCEA0A1CW107M	J	100	16V	EL.	AC
C756	VCEAGA1CW108M	J	1000	16V	EL.	AD
C757	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
⚠ C758	VCEAGA2EW106M	J	10	250V	EL.	AC
C759	VCKYPA2HB102K	J	1000p	500V	Ceramic	AA
C760	VCEAGA1CW108M	J	1000	16V	EL.	AD
C801	RC-QZA223TAYK	J	0.022	50V	Mylar	AB
C802	VCEA0A1HW474M	J	0.47	50V	EL.	AB
C803	VCCCCY1HH120J	J	12p	50V	Ceramic	AA
C804	VCEA0A1HW104M	J	0.1	50V	EL.	AB
C805	VCEA0A1HW104M	J	0.1	50V	EL.	AB
C806	VCEA0A1HW104M	J	0.1	50V	EL.	AB
C807	VCCCCY1HH820J	J	82p	50V	Ceramic	AA
C901	VCKYCY1EF104Z	J	0.1	25V	Ceramic	AA
C905	VCEA0A1HW335M	J	3.3	50V	EL.	AB
C2001	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2002	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2021	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2022	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2023	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2024	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2040	VCEA0A1AW107M	J	100	10V	EL.	AB
C2041	VCEA0A1HW105M	J	1	50V	EL.	AB
C2051	VCCCCY1HH101J	J	100p	50V	Ceramic	AA
C2060	RC-QZA104TAYK	J	0.1	50V	Mylar	AB
C2061	VCKYD41HB101K	J	100p	50V	Ceramic	AA
C2062	VCEA0A1AW107M	J	100	10V	EL.	AB
C2402	VCCCCY1HH560J	J	56p	50V	Ceramic	AA
C2601	VCEA0A1HW475M	J	4.7	50V	EL.	AB
C2602	VCCCCY1HH101J	J	100p	50V	Ceramic	AA

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT (Continued)

RESISTORS

[M-Ox.··· Metal Oxide, M-Film··· Metal Film]

Ref. No.	Part No.	★					Code
RJ1	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ3	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ5	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ6	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ7	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ9	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ10	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ12	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ15	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ17	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ18	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ19	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ20	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ21	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ23	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ24	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ26	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ30	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ31	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ32	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ35	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ40	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ47	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ49	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ52	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ55	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ57	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ59	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ62	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ63	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ66	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ67	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ68	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ71	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ75	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ77	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ78	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
RJ79	VRN-MD2AL000J	J	0	1/10W	M-Film		AA
⚠ R51	VRS-VV3AB331J	J	330	1W	M-Ox.		AA
⚠ R52	VRS-VV3DB470J	J	47	2W	M-Ox.		AA
⚠ R53	VRS-VV3LB223J	J	22k	3W	M-Ox.		AB
R54	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R55	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R56	VRN-MD2AL823J	J	82k	1/10W	M-Film		AA
R57	VRN-MD2AL392J	J	3.9k	1/10W	M-Film		AA
R201	VRN-MD2AL221J	J	220	1/10W	M-Film		AA
R202	VRN-MD2AL122J	J	1.2k	1/10W	M-Film		AA
R203	VRD-RA2BE682J	J	6.8k	1/8W	Carbon		AA
R204	VRN-MD2AL270J	J	27	1/10W	M-Film		AA
R205	VRD-RA2BE391J	J	390	1/8W	Carbon		AA
R206	VRD-RA2EE151J	J	150	1/4W	Carbon		AA
R208	VRN-MD2AL391J	J	390	1/10W	M-Film		AA
R301	VRD-RA2BE222J	J	2.2k	1/8W	Carbon		AA
R302	VRN-MD2AL102J	J	1k	1/10W	M-Film		AA
R303	VRN-MD2AL153J	J	15k	1/10W	M-Film		AA
R307	VRN-MD2AL333J	J	33k	1/10W	M-Film		AA
R352	VRN-MD2AL332J	J	3.3k	1/10W	M-Film		AA
R353	VRN-MD2AL4R7J	J	4.7	1/10W	M-Film		AA
R354	VRN-MD2AL152J	J	1.5k	1/10W	M-Film		AA
R361	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R364	VRN-MD2AL473J	J	47k	1/10W	M-Film		AA
R401	VRN-MD2AL682J	J	6.8k	1/10W	M-Film		AA
R403	VRD-RA2BE331J	J	330	1/8W	Carbon		AA
R404	VRN-MD2AL391J	J	390	1/10W	M-Film		AA
R407	VRN-MD2AL471J	J	470	1/10W	M-Film		AA
R409	VRN-MD2AL471J	J	470	1/10W	M-Film		AA
R410	VRD-RA2BE563J	J	56k	1/8W	Carbon		AA
R411	VRN-MD2AL103J	J	10k	1/10W	M-Film		AA
R412	VRD-RA2EE561J	J	560	1/4W	Carbon		AA
R413	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R414	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R415	VRD-RA2BE470J	J	47	1/8W	Carbon		AA
R416	VRN-MD2AL102J	J	1k	1/10W	M-Film		AA
R417	VRD-RA2BE101J	J	100	1/8W	Carbon		AB
R418	VRN-MD2AL152J	J	1.5k	1/10W	M-Film		AA
R419	VRN-MD2AL472J	J	4.7k	1/10W	M-Film		AA
R423	VRN-MD2AL222J	J	2.2k	1/10W	M-Film		AA
R426	VRN-MD2AL271J	J	270	1/10W	M-Film		AA
R440	VRN-MD2AL821J	J	820	1/10W	M-Film		AA
⚠ R451	VRS-SV2HC103J	J	10k	1/2W	M-Ox.		AA
R452	VRD-RA2BE152J	J	1.5k	1/8W	Carbon		AA
R454	VRD-RA2BE334J	J	330k	1/8W	Carbon		AA
R455	VRD-RA2BE392J	J	3.9k	1/8W	Carbon		AA
R456	VRN-MD2AL223J	J	22k	1/10W	M-Film		AA
R457	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R458	VRD-RA2BE334J	J	330k	1/8W	Carbon		AA
R459	VRD-RA2BE123J	J	12k	1/8W	Carbon		AA
R504	VRD-RA2BE471J	J	470	1/8W	Carbon		AA
R505	VRN-MD2AL101J	J	100	1/10W	M-Film		AA
R506	VRD-RA2BE683G	J	68k	1/8W	Carbon		AA
R507	VRD-RA2BE104G	J	100k	1/8W	Carbon		AA
R508	VRD-RA2BE473J	J	47k	1/8W	Carbon		AA
R510	VRD-RM2HD1R2J	J	1.2	1/2W	Carbon		AA
⚠ R511	VRN-SV2HB1R5J	J	1.5	1/2W	M-Film		AB
R512	VRD-RM2HD681J	J	680	1/2W	Carbon		AA
R516	VRD-RA2BE683G	J	68k	1/8W	Carbon		AA
R517	VRD-RA2BE103G	J	10k	1/8W	Carbon		AA
R518	VRD-RA2BE154J	J	150k	1/8W	Carbon		AA
R524	VRN-MD2AL332J	J	3.3k	1/10W	M-Film		AA
R525	VRD-RA2BE473J	J	47k	1/8W	Carbon		AA
R552	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA
R553	VRN-MD2AL273J	J	27k	1/10W	M-Film		AA
R554	VRN-MD2AL472J	J	4.7k	1/10W	M-Film		AA
R555	VRN-MD2AL102J	J	1k	1/10W	M-Film		AA
R556	VRN-MD2AL102J	J	1k	1/10W	M-Film		AA
R602	VRD-RA2EE820J	J	82	1/4W	Carbon		AA
⚠ R603	VRS-VV3LB220J	J	22	3W	M-Ox.		AB
R605	VRN-MD2AL332J	J	3.3k	1/10W	M-Film		AA
R606	VRD-RA2BE102J	J	1k	1/8W	Carbon		AA

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
R608	VRD-RA2BE101J	J	100	1/8W	Carbon	AB
R609	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
⚠ R610	VRS-VV3DB391J	J	390	2W	M-Ox.	AA
R620	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R621	VRN-MD2AL682J	J	6.8k	1/10W	M-Film	AA
R631	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R632	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R633	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
R634	VRD-RM2HD121J	J	120	1/2W	Carbon	AA
⚠ R641	VRS-VV3AB682J	J	6.8k	1W	M-Ox.	AA
R642	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
▲⚠ R651	VRD-RM2HD1R0J	J	1	1/2W	Carbon	AA
⚠ R654	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
▲⚠ R655	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
▲⚠ R656	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
⚠ R659	VRN-VV3AB1R0J	J	1	1W	M-Film	AA
⚠ R661	VRN-VV3ABR47J	J	0.47	1W	M-Film	AA
⚠ R701	VRC-UA2HG275K	J	2.7M	1/2W	Solid	AA
⚠ R702	VRW-KP3HC1R8K	J	1.8	5W	Cement	AC
⚠ R703	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
R704	VRD-RM2HD123J	J	12k	1/2W	Carbon	AA
R705	VRD-RA2EE334J	J	330k	1/4W	Carbon	AA
R706	VRD-RM2HD470J	J	47	1/2W	Carbon	AA
⚠ R707	VRN-VV3DB1R5J	J	1.5	2W	M-Film	AB
⚠ R708	VRD-RM2HD824J	J	820k	1/2W	Carbon	AA
⚠ R709	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
⚠ R711	VRS-KA3NG681J	J	680	7W	M-Ox.	AF
⚠ R717	VRS-KA3HG3R3K	J	3.3	5W	M-Ox.	AD
⚠ R730	VRS-VV3DB270J	J	27	2W	M-Ox.	AA
R750	VRS-VV3AB561J	J	560	1W	M-Ox.	AA
R752	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R754	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
⚠ R755	VRS-VV3DB470J	J	47	2W	M-Ox.	AA
R757	VRN-MD2AL472J	J	4.7k	1/10W	M-Film	AA
⚠ R758	VRS-SV2HC100J	J	10	1/2W	M-Ox.	AA
R801	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R802	VRN-MD2AL332J	J	3.3k	1/10W	M-Film	AA
R803	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R804	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R805	VRN-MD2AL182J	J	1.8k	1/10W	M-Film	AA
R806	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R902	VRN-MD2AL750J	J	75	1/10W	M-Film	AA
R906	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R925	VRN-MD2AL104J	J	100k	1/10W	M-Film	AA
R961	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R962	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2001	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2002	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2006	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2008	VRD-RA2BE224J	J	220k	1/8W	Carbon	AA
R2009	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2010	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2011	VRN-MD2AL821J	J	820	1/10W	M-Film	AA
R2012	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2020	VRD-RM2HD223J	J	22k	1/2W	Carbon	AA
R2022	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R2024	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2025	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2026	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2027	VRD-RA2BE682J	J	6.8k	1/8W	Carbon	AA
R2028	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2029	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2031	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2032	VRN-MD2AL471J	J	470	1/10W	M-Film	AA
R2040	VRN-MD2AL102J	J	1k	1/10W	M-Film	AA
R2041	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R2042	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2043	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2044	VRN-MD2AL683J	J	68k	1/10W	M-Film	AA
R2045	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2047	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R2048	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2049	VRN-MD2AL333J	J	33k	1/10W	M-Film	AA
R2054	VRN-MD2AL222J	J	2.2k	1/10W	M-Film	AA
R2055	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2060	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R2061	VRN-MD2AL562J	J	5.6k	1/10W	M-Film	AA
R2062	VRN-MD2AL183J	J	18k	1/10W	M-Film	AA
R2063	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2064	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R2066	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2067	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2068	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2070	VRN-MD2AL103J	J	10k	1/10W	M-Film	AA
R2101	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2102	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2401	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2402	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2403	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2404	VRN-MD2AL101J	J	100	1/10W	M-Film	AA
R2501	VRN-MD2AL123J	J	12k	1/10W	M-Film	AA
R2503	VRN-MD2AL273J	J	27k	1/10W	M-Film	AA
R2504	VRN-MD2AL123J	J	12k	1/10W	M-Film	AA
R2505	VRN-MD2AL563J	J	56k	1/10W	M-Film	AA
R2506	VRN-MD2AL563J	J	56k	1/10W	M-Film	AA
R2507	VRN-MD2AL823J	J	82k	1/10W	M-Film	AA
R2508	VRN-MD2AL153J	J	15k	1/10W	M-Film	AA
R2509	VRN-MD2AL272J	J	2.7k	1/10W	M-Film	AA
R2601	VRD-RA2BE331J	J	330	1/8W	Carbon	AA

SWITCHES

S2501	QSW-K0079GEZZ	J	Power	AB
S2502	QSW-K0079GEZZ	J	Vol-Down	AB
S2503	QSW-K0079GEZZ	J	Vol-Up	AB
S2504	QSW-K0079GEZZ	J	CH-Down	AB
S2505	QSW-K0079GEZZ	J	CH-Up	AB

PWB-A : DUNTK9532WEV0(19K-M100S)
PWB-A : DUNTK9532WEV1(20MK10)
MAIN UNIT (Continued)

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
⚠ RY701	RRLYU0036CEZZ	J	Relay	AM
⚠ F701	QFS-B4023CEZZ	J	Fuse, 4A (125V)	AC
	or			
	QFS-B4021GEZZ			
FB602	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB603	RBLN-0037CEZZ	J	Ferrite Bead	AB
FH701	QFSHD1013CEZZ	J	Fuse Holder	AC
FH702	QFSHD1014CEZZ	J	Fuse Holder	AC
J903	QJAKE0159CEZZ	J	Jack, Audio IN	AF
J905	QJAKE0158CEZZ	J	Jack, Video IN	AF
P302	QPLGN0261CEZZ	J	Plug 2-pin (S)	AB
P401	QPLGN0561CEZZ	J	Plug 5-pin (GBN)	AB
⚠ P601	QPLGN0603CEZZ	J	Plug 6-pin (K)	AB
P651	QPLGN0361CEZZ	J	Plug 3-pin	AB
P701	QPLGN0207CEZZ	J	Plug 2-pin(M)	AA
P751	QPLGN0461CEZZ	J	Plug 4-pin(YBN)	AB
P2001	QPLGN0561CEZZ	J	Plug 5-pin	AB
RMC2601	RRMCU0227CEZZ	J	Remote Receiver	AK
	or			
	RRMCU0222CEZZ			
RDA501	PRDAR0218PEFW	R	Heat Sink, IC501	AD
RDA602	PRDAR0216PEFW	R	Heat Sink, Q602	AE
RDA701	PRDAR0238PEFW	R	Heat Sink, IC701	AN
TP701	QLUGP0102PEZZ	R	Lug	AA
	PZETM0016CEZZ	J	Insulator	AB
	LHLDW1002PEZZ	R	Holder	AB
	LX-BZ3049GEFD	J	Screw	AA

PWB-B : DUNTK9530WEV1
CRT UNIT (19K-M100, CK19M10)

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q852	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q854	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q856	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q881	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
	or			
	VS2SA1015Y/1E			

DIODES

You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".

Ref. No.	Part No.	★	Description	Code
D881	VHD1SS119//-1	J	Diode	AB
D882	VHD1SS119//-1	J	Diode	AB
D885	VHD1SS119//-1	J	Diode	AB

COIL

Ref. No.	Part No.	★	Description	Code
L851	VP-DF151K0000	J	Peaking 150µH	AB

CAPACITORS

[EL.··· Electrolytic]

Ref. No.	Part No.	★				Code
C851	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C852	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C853	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C854	RC-KZ0016CEZZ	J	0.01	1.4kV	Ceramic	AC
C881	VCEA0A1CW106M	J	10	16V	Electrolytic	AB
C883	VCEA0A1CW336M	J	33	16V	Electrolytic	AB

RESISTORS

[M-Ox.··· Metal Oxide, M-Film··· Metal Film]

Ref. No.	Part No.	★				Code
R851	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
R852	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R853	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠ R857	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R858	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R859	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
R860	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
R861	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠ R865	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R866	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R867	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
R868	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
R869	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠ R873	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
R874	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
R881	VRN-MD2AL561J	J	560	1/10W	M-Film	AA
R882	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
R883	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R884	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
R886	VRN-MD2AL431J	J	430	1/10W	M-Film	AA
R887	VRN-MD2AL470J	J	47	1/10W	Metal.Film	AA

Ref. No.	Part No.	★	Description	Code

PWB-B : DUNTK9530WEV1
CRT UNIT (19K-M100, CK19M10) (Continued)

MISCELLANEOUS PARTS

P851	QPLGN0561CEZZ	J	Plug 5-pin (GBN)	AB
P852	QPLGN0461CEZZ	J	Plug 4-pin (YBN)	AB
SC851	QSOCV0840CEZZ	J	Socket	AK
	or			
	QSOCV0826CEZZ			

Ref. No.	Part No.	★	Description	Code

PWB-B : DUNTK9533WEV0
CRT UNIT (19K-M100S, 20MK10)

TRANSISTORS

Q852	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q854	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q856	VS2SC2229O/1E	J	2SC2229 (O)	AD
Q881	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
	or			
	VS2SA1015Y/1E			

DIODES

You can substitute "RH-DX0446CEZZ" for "VHD1SS119//-1" and "RH-DX0045GEZZ".

D881	VHD1SS119//-1	J	Diode	AB
D882	VHD1SS119//-1	J	Diode	AB
D885	VHD1SS119//-1	J	Diode	AB

COIL

L851	VP-DF151K0000	J	Peaking 150µH	AB

CAPACITORS

[EL.··· Electrolytic]

C851	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C852	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C853	VCCCCY1HH271J	J	270p	50V	Ceramic	AA
C854	RC-KZ0016CEZZ	J	0.01	1.4kV	Ceramic	AC
C881	VCEA0A1CW106M	J	10	16V	EL.	AB
C883	VCEA0A1CW336M	J	33	16V	EL.	AB

RESISTORS

[M-Ox.··· Metal Oxide, M-Film··· Metal Film]

	R851	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
	R852	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
	R853	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R857	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R858	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R859	VRD-RA2BE470J	J	47	1/8W	Carbon	AA
	R860	VRN-MD2AL221J	J	220	1/10W	M-Film	AA
	R861	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R865	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R866	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R867	VRN-MD2AL470J	J	47	1/10W	M-Film	AA
	R868	VRD-RA2BE221J	J	220	1/8W	Carbon	AA
	R869	VRN-MD2AL121J	J	120	1/10W	M-Film	AA
⚠	R873	VRS-VV3AB123J	J	12k	1W	M-Ox.	AA
	R874	VRD-RM2HD332J	J	3.3k	1/2W	Carbon	AA
	R881	VRN-MD2AL561J	J	560	1/10W	M-Film	AA
	R882	VRN-MD2AL391J	J	390	1/10W	M-Film	AA
	R883	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
	R884	VRN-MD2AL152J	J	1.5k	1/10W	M-Film	AA
	R886	VRN-MD2AL431J	J	430	1/10W	M-Film	AA
	R887	VRN-MD2AL470J	J	47	1/10W	M-Film	AA

Ref. No.	Part No.	★	Description	Code

PWB-B : DUNTK9533WEV0
CRT UNIT (19K-M100S, 20MK10) (Continued)

MISCELLANEOUS PARTS

P851	QPLGN0561CEZZ	J	Plug 5-pin (GBN)	AB
P852	QPLGN0461CEZZ	J	Plug 4-pin (YBN)	AB
SC851	QSOCV0929CEZZ	J	Socket	AM
	or			
	QSOCV0933CEZZ			

Ref. No.	Part No.	★	Description	Code

MISCELLANEOUS PARTS

⚠ ACC701	QACCD3053CESA	M	AC Cord	AH
	or			
	QACCD3014CESA			
	QCNW-2110PEZZ	R	Connecting Cord (CK19M10)	AG
	QCNW-2111PEZZ	R	Connecting Cord	AF
	QCNW-2112PEZZ	R	Connecting Cord	AF
	QCNW-2160PEZZ	R	Connecting Cord (19K-M100S)	
SP1	VSP0080PBK98A	M	Speaker	AG
	or			
	VSP0080P-E98S			

SUPPLIED ACCESORRIES

TGAN-1006MEZZ	M	Guarantee Card (19K-M100/100S)	AA
TiNS-6354MEZZ	M	Operation Manual (CK19M10)	AC
TiNS-6366MEZZ	M	Operation Manual (20MK10)	AC
TiNS-6463MEZZ	M	Operation Manual (19K-M100/100S)	AC
RRMCG1324CESA	M	Infrared R/C Unit (19K-M100/100S, CK19M10)	AT
RRMCG1339CESA	M	Infrared R/C Unit (20MK10)	

PACKING PARTS
(NOT REPLACEMENT ITEM)

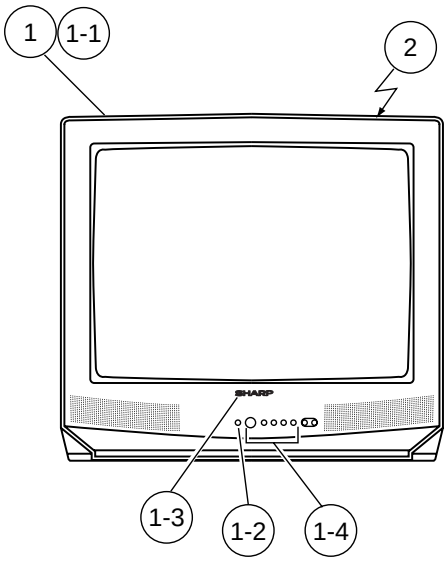
SPAKC0594MEZZ	–	Packing Case (19K-M100/100S, CK19M10)	—
SPAKC0597MEZZ	–	Packing Case (20MK10)	—
SPAKP0088PEZZ	–	Polystyrene Cover	—
SPAKX0163MEZZ	–	Buffer Material	—
SSAKA0004MEZZ	–	Polyethylene Bag	—

Ref. No.	Part No.	★	Description	Code

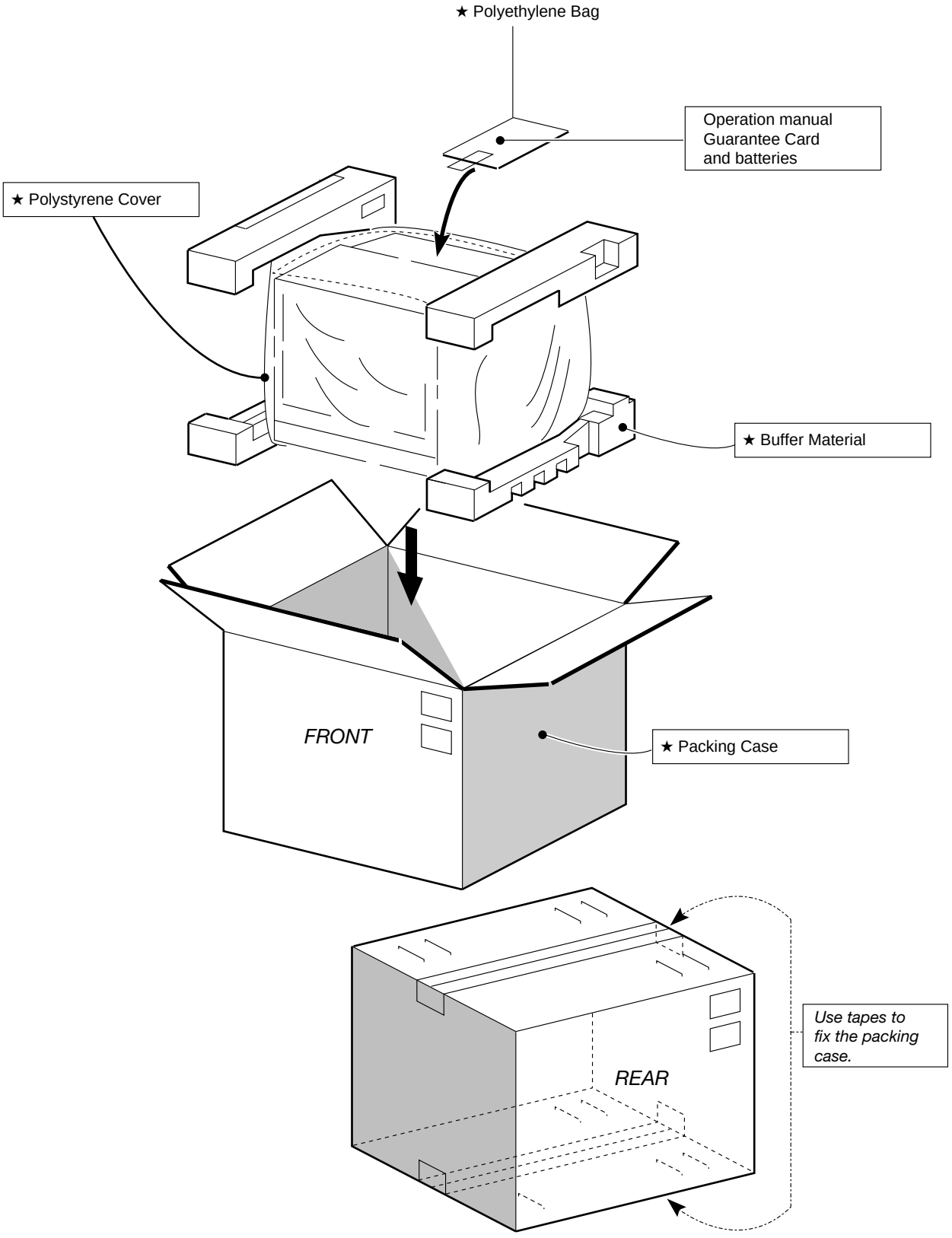
CABINET PARTS

1	CCABA1266MES0	M	Cabinet Ass'y, Front	BC
1-1	*Not Available*	–	Front Cabinet	—
1-2	GCOVA1031MEKA	M	Cover for R/C	AD
1-3	HBDGB3009MESA	M	Badge, "SHARP"	AC
1-4	JBTN-1090MEKA	M	Button	AD
2	GCABB1130MEKA	M	Rear Cabinet	AX

CABINET PARTS LOCATION



PACKING OF THE SET



MARK ★ : Not replacement items.

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